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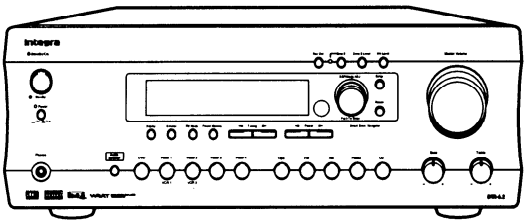
Integra® SERVICE MANUAL

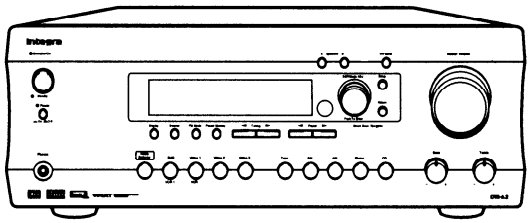
A V RECEIVER MODEL DTR-6.2



Black model

BMDD	120V AC, 60Hz

A V RECEIVER MODEL DTR-5.2



Black model

BMDD	120V AC, 60Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PART NUMBER APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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SPECIFICATIONS (Model DTR-5.2)

AMPLIFIER SECTION

Continuous Average Power output (FTC)

All channels:	**75 W per channel min. RMS at 8 Ω, 2 channels driven from 20 Hz to 20 kHz with no more than 0.08 % total harmonic distortion. 100 W min. RMS at 6 Ω, 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.**
Continuous Power output (DIN)	110 W at 6 Ω
Maximum Power output (EIAJ)	140 W at 6 Ω
Dynamic Power Output (Stereo)	2 ×210 W at 3 Ω
	2 ×150 W at 4 Ω
	2 ×90 W at 8 Ω
Total Harmonic Distortion:	0.08% at rated power
	0.08% at 1 W output
IM Distortion:	0.08% at rated power
	0.08% at 1 W output
Damping Factor:	60 at 8 Ω
Input Sensitivity and Impedance	
PHONO:	2.5 mV, 50 kΩ
LINE (CD, TAPE, DVD, VIDEO 1,2,3):	200 mV, 50 kΩ
MULTICHANNEL INPUT (FRONT L/C/R, SURROUND L/R):	200 mV, 50 kΩ
(SUBWOOFER):	36 mV, 50 kΩ
COAXIAL 1, 2 (DIGITAL):	0.5 Vp-p, 75 Ω
DVD, VIDEO1,2,3:	1 Vp-p, 75 Ω
	1 Vp-p, 75 Ω(Y)
	0.28 Vp-p, 75 Ω(C)
Output Level and Impedance	
Rec out (TAPE, VIDEO 1):	200 mV, 2.2 kΩ
Pre out:	1 V, 470 Ω
VIDEO (VIDEO 1, 2, MONITOR OUT):	1 Vp-p, 75 Ω
	1 Vp-p, 75 Ω(Y)
	0.28 Vp-p, 75 Ω(C)
Phono Overload:	180 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency Response:	10 Hz to 100 kHz: +1 dB, –3 dB
RIAA Deviation:	20 Hz to 20 kHz : ±0.8 dB
Tone Control	
Bass:	±10 dB at 50 Hz
Treble:	±10 dB at 20 kHz
Signal-to-Noise Ratio (Stereo)	
Phono:	80 dB (IHF A, 5 mV input)
CD/Tape:	100 dB (IHF A, 0.5 V input)
Muting:	–50 dB

TUNER SECTION

FM

Tuning Range:	87.5 to 108.0 MHz (50-kHz steps)
Usable Sensitivity	
Mono:	11.2 dBf, 1.0 μV (75 ΩIHF)
	0.9 μV (75 ΩDIN)
Stereo:	17.2 dBf, 2.0 μV (75 ΩIHF)
	23 μV (75 ΩDIN)
50 dB Quieting Sensitivity	
Mono:	17.2 dBf, 2.0 μV (75 Ω)
Stereo:	37.2 dBf, 20 μV (75 Ω)
Capture Ratio:	2.0 dB
Image Rejection Ratio:	40 dB
IF Rejection Ratio:	90 dB
Signal-to-Noise Ratio	
Mono:	76 dB
Stereo:	70 dB
Alternate Channel Attenuation:	55 dB
Selectivity:	50 dB (DIN)
AM Suppression Ratio:	50 dB
Total Harmonic Distortion	
Mono:	0.2%
Stereo:	0.3%
Frequency Response:	30 Hz to 15 kHz, ±1.0 dB
Stereo Separation:	45 dB at 1 kHz
	30 dB at 100 Hz to 10 kHz

AM

Tuning Range:	530 to 1,710 kHz (10-kHz steps)
Usable Sensitivity:	30 μV
Image Rejection Ratio:	40 dB
IF Rejection Ratio:	40 dB
Signal-to-Noise Ratio:	40 dB
Total Harmonic Distortion:	0.7%

GENERAL

Power Supply:	AC 120 V, 60 Hz
Power Consumption:	4.7 A
Dimensions (W ×H ×D):	17-1/8" ×6-7/8" ×17"
Weight:	25.1 lbs.

REMOTE CONTROLLER

Transmitter:	Infrared
Signal range:	Approx. 5 meters, 16 ft.
Power supply:	Two "AA" batteries (1.5 V ×2)

Specifications and features are subject to change without notice.

Power supply and voltage vary depending on the area in which the unit is purchased.

SPECIFICATIONS (Model DTR-6.2)

AMPLIFIER SECTION

Continuous Average Power output (FTC)

All channels:	**100 W per channel min. RMS at 8 Ω , 2 channels driven from 20 Hz to 20 kHz with no more than 0.08% total harmonic distortion. 125 W min. RMS at 6 Ω , 2 channels driven from 1 kHz with no more than 0.1% total harmonic distortion.**
Continuous Power output (DIN)	130 W at 6 Ω
Maximum Power output (EIAJ)	160 W at 6 Ω
Dynamic Power Output (Stereo)	2 ×230 W at 3 Ω
	2 ×170 W at 4 Ω
	2 ×115 W at 8 Ω
Total Harmonic Distortion:	0.08% at rated power
	0.08% at 1 W output
IM Distortion:	0.08% at rated power
	0.08% at 1 W output
Damping Factor:	60 at 8 Ω
Input Sensitivity and Impedance	
PHONO:	2.5 mV, 50 kΩ
LINE (CD, TAPE, DVD, VIDEO 1-4):	200 mV, 50 kΩ
MULTICHANNEL INPUT (FRONT L/C/R, SURROUND L/R):	200 mV, 50 kΩ
(SUBWOOFER):	36 mV, 50 kΩ
COAXIAL 1, 2 (DIGITAL):	0.5 Vp-p, 75 Ω
DVD, VIDEO1-4:	1 Vp-p, 75 Ω
	1 Vp-p, 75 Ω(Y)
	0.28 Vp-p, 75 Ω(C)
COMPONENT VIDEO 1, 2:	1 Vp-p, 75 Ω(Y)
	0.7 Vp-p, 75 Ω (CB/CR, PB/PR)
Output Level and Impedance	
Rec out (TAPE, VIDEO 1, 2):	200 mV, 2.2 kΩ
Pre out:	1 V, 470 Ω
VIDEO (VIDEO 1, 2, MONITOR OUT):	1 Vp-p, 75 Ω
	1 Vp-p, 75 Ω(Y)
	0.28 Vp-p, 75 Ω(C)
COMPONENT VIDEO OUT:	1 Vp-p, 75 Ω(Y)
	0.7 Vp-p, 75 Ω(CB/CR, PB/PR)
ZONE 2 LINE OUT:	100 mV, 1 kΩ
Phono Overload:	110 mV RMS at 1 kHz, 0.5% T.H.D.
Frequency Response:	5 Hz to 100 kHz: +1 dB, –3 dB
RIAA Deviation:	20 Hz to 20 kHz : ±0.8 dB
Tone Control	
Bass:	±10 dB at 50 Hz
Treble:	±10 dB at 20 kHz
Signal-to-Noise Ratio (Stereo)	
Phono:	80 dB (IHF A, 5 mV input)
CD/Tape:	100 dB (IHF A, 0.5 V input)
Muting:	–50 dB

TUNER SECTION

FM

Tuning Range:	87.5 to 108.0 MHz (50-kHz steps)
Usable Sensitivity	
Mono:	11.2 dBf, 1.0 µV (75 Ω IHF)
	0.9 µV (75 Ω DIN)
Stereo:	17.2 dBf, 2.0 µV (75 Ω IHF)
	23 µV (75 Ω DIN)
50 dB Quieting Sensitivity	
Mono:	17.2 dBf, 2.0 µV (75 Ω)
Stereo:	37.2 dBf, 20 µV (75 Ω)
Capture Ratio:	2.0 dB
Image Rejection Ratio:	40 dB
IF Rejection Ratio:	90 dB
Signal-to-Noise Ratio	
Mono:	76 dB
Stereo:	70 dB
Alternate Channel Attenuation:	55 dB
Selectivity:	50 dB (DIN)
AM Suppression Ratio:	50 dB
Total Harmonic Distortion	
Mono:	0.2%
Stereo:	0.3%
Frequency Response:	30 Hz to 15 kHz, ±1.0 dB
Stereo Separation:	45 dB at 1 kHz
	30 dB at 100 Hz to 10 kHz

AM

Tuning Range:	530 to 1,710 kHz (10-kHz steps)
Usable Sensitivity:	30 µV
Image Rejection Ratio:	40 dB
IF Rejection Ratio:	40 dB
Signal-to-Noise Ratio:	40 dB
Total Harmonic Distortion:	0.7%

GENERAL

Power Supply:	AC 120 V, 60 Hz
Power Consumption:	5.7 A
Dimensions (W ×H ×D):	17-1/8" ×6-7/8" ×17"
Weight:	28.0 lbs.

REMOTE CONTROLLER

Transmitter:	Infrared
Signal range:	Approx. 5 meters, 16 ft.
Power supply:	Two "AA" batteries (1.5 V ×2)

Specifications and features are subject to change without notice.

Power supply and voltage vary depending on the area in which the unit is purchased.

SERVICE PROCEDURES

1. Replacing the fuses

This symbol located near the fuses indicates that the fuse used is fast operating type. For continued protection against fire hazard, replace with same type fuse. For fuse rating refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utlise est a rapide.
Pour une protection permanente, n'untiliser que fusibles de meme type. Ce darnier est la qu le present symbol est appse.

DTR-6.2

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252198	8A-UL,Fuse
F9501	252160	2.5A-UL/T-237,Fuse

DTR-5.2

CIRCUIT NO.	PART NO.	DESCRIPTION
F901	252166	6.3A-UL/T237,Fuse
F9501	252160	2.5A-UL/T-237,Fuse

2. To initialize the unit

This device employs a microprocessor to perform various functions and operations. If interference generated by an external power supply, radio wave, or other electrical source results in accident which causes the specified operations and functions to operate abnormally.
To perform a result, please follow the procedure below.

1.Turn POWER to on.
2.Press and hold down the PRESET MEMORY button, then press the STANDBY button.
After "clear" is displayed, the preset memory and each mode stored in the memory, such as surround, are initialized and will return to the factory setting.
3.Disconnect Power supply cord.

3. Safety-check out

(Only U.S.A. model)
After correcting the original service problem, perform the following safety check before releasing the set to the customer.
Connect the insulating-resistance tester between the plug of power supply cord and screw on the back panel.
Specifications: 3.3Mohm+/-10% at 500V.

4. Memory Preservation

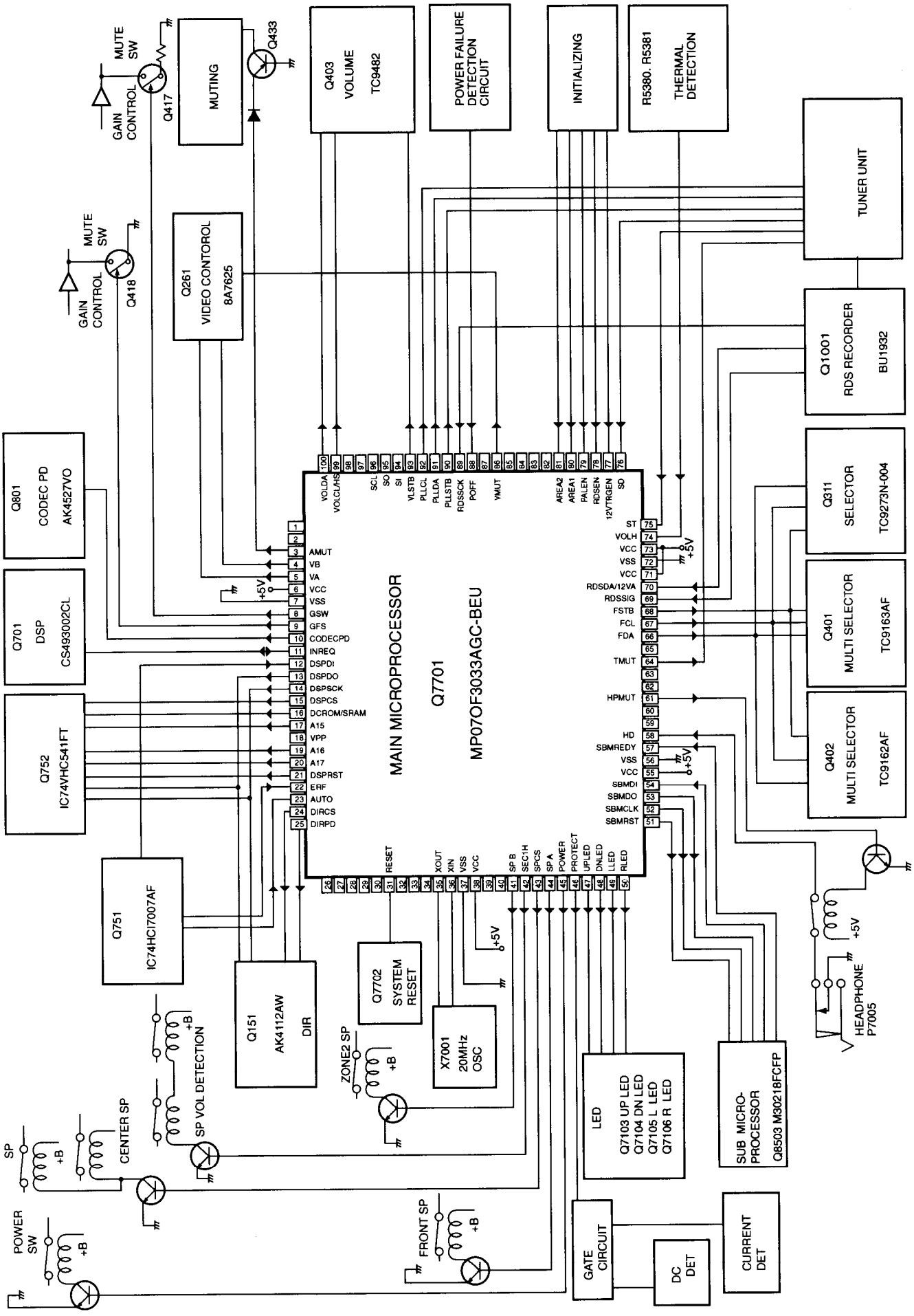
This unit does not require memory preservation batteries.
A built-in memory power back-up system preserves the contents of the memory during power failures and even when the unit is unplugged. The unit must be plugged in order to charge the back-up system.
The memory preservation period after the unit has been unplugged varies depending on climate and placement of the unit. On the average, memory contents are protected over a period of a few weeks after the last time the unit has been unplugged. This period is shorter when the unit is exposed to a highly humid climate.

5. Changing the AM band step

With the exception of the worldwide models,a tuning step step setup mode is not provided. When you change the band step, change the parts as shown below.

	To 10kHz	To 9kHz
R7780,R7781	330 ohm	Open
R7880,R7881	Open	2.2 kohm

MAIN MICROPROCESSOR (Model DTR-5.2)



MAIN MICROPROCESSOR TERMINAL DESCRIPTION (Model DTR-5.2)

Pin No.	Symbol	I/O	Descriptions	Pin No.	Symbol	I/O	Descriptions
3	AMUT	O	Audio muting output pin.	50	RLED	O	Right direction LED control output pin of SSC.
4	VB	O	Output B pin to control video signal.	51	~SBMRST	O	Reset signal output pin to sub microprocessor.
5	VA	O	Output A pin to control video signal.	52	SBMCLK	O	Clock signal output pin to transmit to the sub microprocessor.
6	EVDD		Power supply pin. Connect to +5V.	53	SBMDO	O	Data signal output pin to transmit to the sub microprocessor.
7	EVSS		Ground pin.	54	SBMDI	I	Data signal input pin to transmit from the sub microprocessor.
8	GSW	O	Gain control signal output pin for subwoofer.	55	BVDD		Power supply pin. Connect to +5V.
9	GFS	O	Gain control output signal pin to front, surround, and	56	BVSS		Ground pin.
			center channels.	57	SBMREDY	I	Read signal input pin to transmit from the sub microprocessor.
10	~CODECPD	O	Power down output pin to Codec IC.	58	HD	I	Detection pin when insert the headphones.
11	INTREQ	I/O	Interrupter and abort signal input/output pin of DSP IC.	59	Z2LED	O	Zone 2 LED control output pin.
12	DSPDI	I	Serial data input pin from DIR and DSP ICs.	61	HPMUT	O	Muting output pin to the headphone circuit.
13	DSPDO	O	Serial data output pin from DIR and DSP ICs.	64	TMUT	O	Muting output pin to the tuner block.
14	DSPSCK	O	Serial clock output pin to DIR and DSP ICs.	66	FDA	O	Data signal output pin to Selector, Configuration, Multi channel,
15	DSPCS	O	Chip select output pin to DSP IC.				and Multi source control ICs.
16	CSROM/~SRAM	O	Change-over pin of RAM and ROM, ROM at H.	67	FCL	O	Clock signal output pin to Selector, Configuration, Multi channel,
17	A15	O	ROM address 15				and Multi source control ICs.
18	VPP			68	FSTB	O	Strobe signal output pin to Selector, Configuration, Multi channel,
19	A16	O	ROM address 16				and Multi source control ICs.
20	A17	O	ROM address 17	69	RDSSIG/12VB	I/O	Quality check input pin of RDS demodulator signal.
21	~DSPRST	O	Reset signal output pin to DSP IC.	70	RDSDA/12VA	I/O	Data input pin from RDS decoder.
22	ERF	I	Error flag input pin.	71	AVDD		Power supply pin. Connect to +5V.
23	AUTO	O	Auto detection input pin of DIR IC.	72	AVSS		Ground pin.
24	DIRCS	O	Chip select output pin to DIR IC.	73	AVREF		Reference voltage input pin.
25	~DIRPD	O	Power down signal output pin to DIR IC.	74	VOLH	I	Voltage detection input pin of speaker terminal.
31	~RESET	I	System reset input terminal.	75	~ST	I	Stereo broadcast detection input pin.
32	XT1		Oscillator connection pin of sub system. Not used.	76	~SD	I	Station input pin.
33	XT2		Not used.	77	12VTRGEN	I	Initializing input terminal for 12V trigger.
34	REGC			78	RDSEN	I	Initializing input terminal for RDS broadcast.
35	X2		Ceramic oscillator connection pins.	79	PLAEN	I	Initializing input terminal for PAL/NTSC.
36	X1		Connect the 20MHz ceramic oscillator between X1 and X2 pins.	80	AREA1	I	Initializing input terminal for broadcast area.
37	VSS		Power supply pin. Connect to ground pin.	81	AREA2	I	Initializing input terminal for broadcast area.
38	VDD		Power supply pin. Connect to +5V.	88	~POFF	I	Power failure detection input pin.
39	CLKOUT		Not used.	89	RDSSCK	I	Clock signal input pin from RDS decoder.
41	SPB	O	Speaker relay B control signal output pin.	90	PLLSTB	O	Chip enable signal output pin to PLL IC.
42	SEC1H	O	Amplifier gain control output pin.	91	PLLDA	O	Data signal output pin to PLL IC.
43	SPCS	O	Speaker relay control output pin of center and surround channels.	92	PLLCL	O	Clock signal output pin to PLL IC.
44	SPA	O	Speaker relay A control signal output pin.	93	VLSTB	O	Strobe signal output pin to electrical volume IC.
45	POWER	O	Power relay control output pin.	94	SI	I	Signal input pin to write the program.
46	PROTECT	I	Protection circuit detection input pin.	95	SO	O	Signal output pin to write the program.
47	UPLED	O	Up direction LED control output pin of SSC.	96	SCL	O	Clock signal output pin to write the program.
48	DNLED	O	Down direction LED control output pin of SSC.	99	VOLCL/HS	O	Clock signal output pin to the electrical volume IC.
49	LEED	O	Left direction LED control output pin of SSC.	100	VOLDA	O	Data signal output pin to the electrical volume IC.

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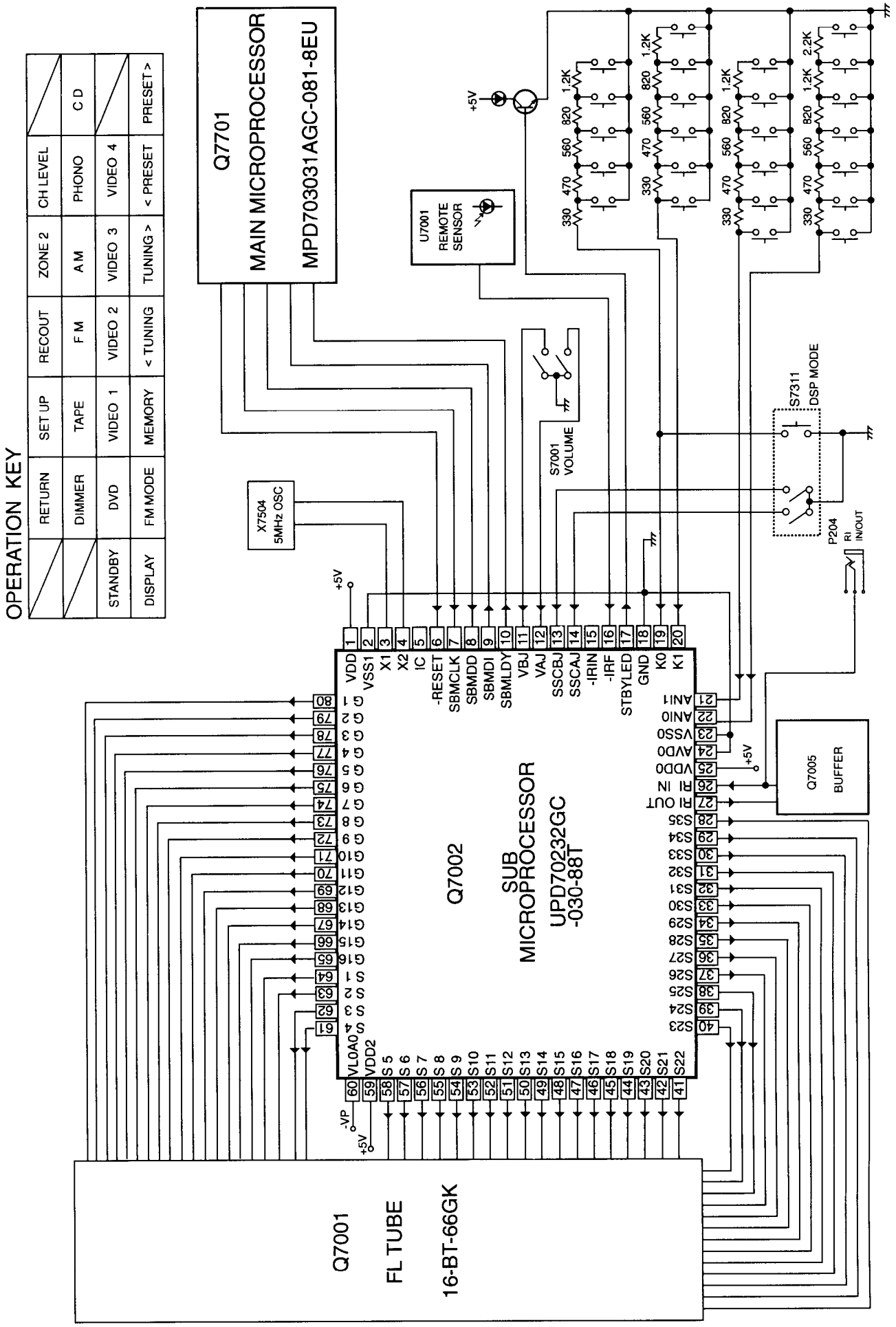
SUB MICROPROCESSOR (Model DTR-5.2)



SUB MICROPROCESSOR TERMINAL DESCRIPTION (Model DTR-5.2/DTR-6.2)

Pin No.	Symbol	I/O	Descriptions	Pin No.	Symbol	I/O	Descriptions
1	VDD		Power supply terminal. Connect to 5V.	40	P23	O	Segment output terminal of P23.
2	VSS		Ground terminal.	41	P22	O	Segment output terminal of P22.
3	X1		Ceramic oscillator connection terminals for main system.	42	P21	O	Segment output terminal of P21.
4	X2		Connect the 5MHz ceramic oscillator between #3 and #4.	43	P20	O	Segment output terminal of P20.
5	IC/VPP		Power supply terminal for flash memory IC.	44	P19	O	Segment output terminal of P19.
6	~RESET	I	System reset signal input terminal.	45	P18	O	Segment output terminal of P18.
7	SUBCL/SCK	I	Clock input terminal to transmit from main microprocessor or	46	P17	O	Segment output terminal of P17.
			to write the program.	47	P16	O	Segment output terminal of P16.
8	SUBDO/SDI	I	Data input terminal to transmit from main microprocessor or	48	P15	O	Segment output terminal of P15.
			to write the program.	49	P14	O	Segment output terminal of P14.
9	SUBDI/SDD	O	Data output terminal to transmit to main microprocessor or	50	P13	O	Segment output terminal of P13.
			to write the program.	51	P12	O	Segment output terminal of P12.
10	SUBLDY	O	Data ready output terminal to transmit to the main microprocessor.	52	P11	O	Segment output terminal of P11.
11	VBJ	I	Pulse input terminal from the rotary encoder of volume.	53	P10	O	Segment output terminal of P10.
12	VAJ	I	Pulse input terminal from the rotary encoder of volume.	54	P9	O	Segment output terminal of P9.
13	SSCBJ	I	Pulse input terminal from the rotary encoder of SSC.	55	P8	O	Segment output terminal of P8.
14	SSCAJ	I	Pulse input terminal from the rotary encoder of SSC.	56	P7	O	Segment output terminal of P7.
15	~IRIN	I	Signal input terminal to remote controller.	57	P6	O	Segment output terminal of P6.
16	~IRF	I	Signal input terminal to remote controller.	58	P5	O	Segment output terminal of P5.
17	STBYLED	O	Standby LED control output terminal.	59	VDD2		Power supply termini. Apply +5V.
18	AVSS		Ground terminal for A/D converter.	60	VLOAD		Negative power supply terminal of FL controller.
19	K3	I	Operation key connection terminal.	61	P4	O	Segment output terminal of P4.
20	K2	I	Operation key connection terminal.	62	P3	O	Segment output terminal of P3.
21	K1	I	Operation key connection terminal.	63	P2	O	Segment output terminal of P2.
22	K0	I	Operation key connection terminal.	64	P1	O	Segment output terminal of P1.
23	VSS0		Ground terminal	65	16G	O	Grid output terminal of 16G.
24	AVDD		Power supply terminal for A/D converter.	66	15G	O	Grid output terminal of 15G.
25	VDDD		Power supply terminal. Apply +5V.	67	14G	O	Grid output terminal of 14G.
26	~SYSIN	I	System code input terminal.	68	13G	O	Grid output terminal of 13G.
27	~SYSOUT	O	System code output terminal.	69	12G	O	Grid output terminal of 12G.
28	P35	O	Segment output terminal of P35.	70	11G	O	Grid output terminal of 11G.
29	P34	O	Segment output terminal of P34.	71	10G	O	Grid output terminal of 10G.
30	P33	O	Segment output terminal of P33.	72	9G	O	Grid output terminal of 9G.
31	P32	O	Segment output terminal of P32.	73	8G	O	Grid output terminal of 8G.
32	P31	O	Segment output terminal of P31.	74	7G	O	Grid output terminal of 7G.
33	P30	O	Segment output terminal of P30.	75	6G	O	Grid output terminal of 6G.
34	P29	O	Segment output terminal of P29.	76	5G	O	Grid output terminal of 5G.
35	P28	O	Segment output terminal of P28.	77	4G	O	Grid output terminal of 4G.
36	P27	O	Segment output terminal of P27.	78	3G	O	Grid output terminal of 3G.
37	P26	O	Segment output terminal of P26.	79	2G	O	Grid output terminal of 2G.
38	P25	O	Segment output terminal of P25.	80	1G	O	Grid output terminal of 1G.
39	P24	O	Segment output terminal of P24.				

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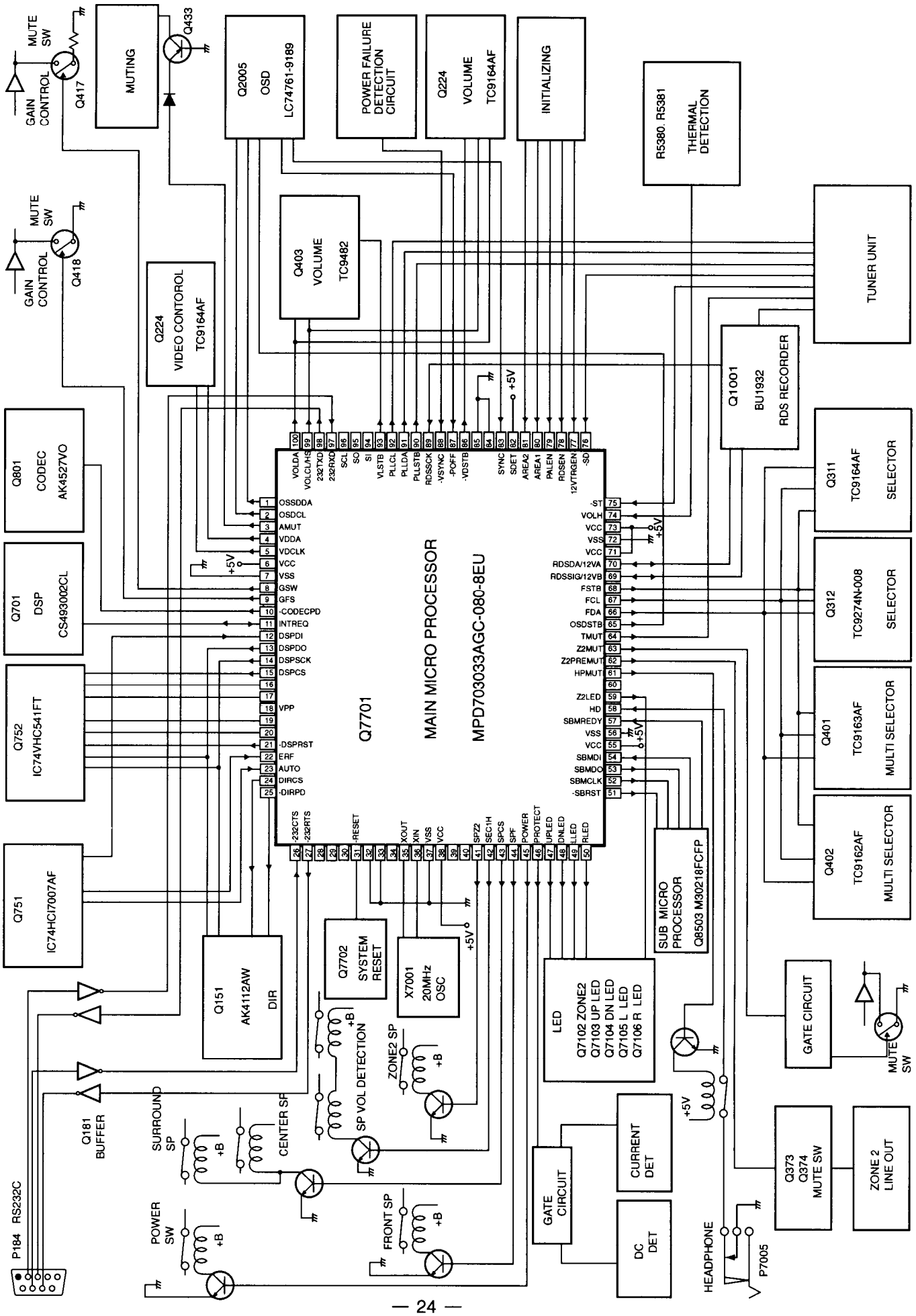
MAIN MICROPROCESSOR (Model DTR-6.2)

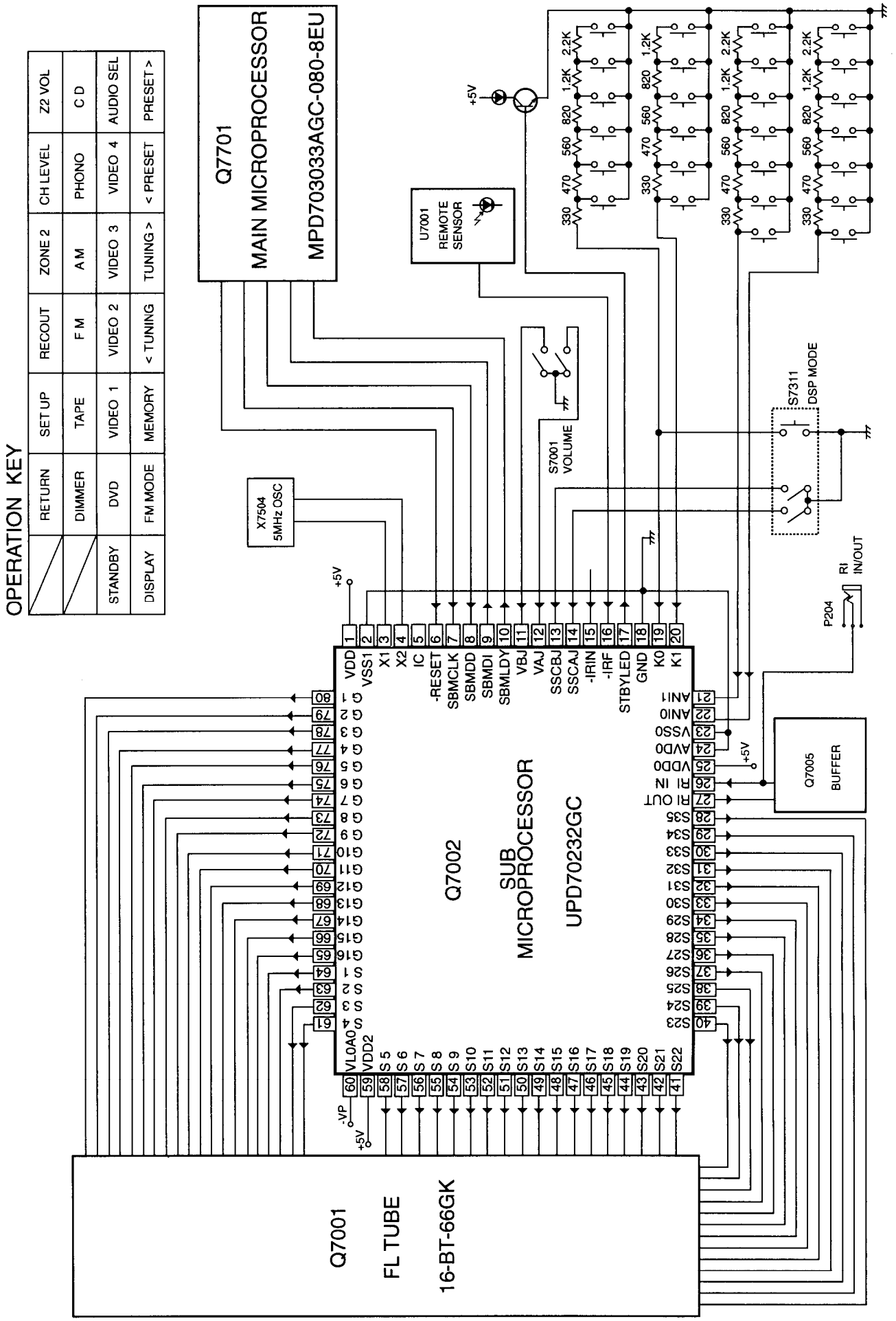


MAIN MICROPROCESSOR TERMINAL DESCRIPTION (Model DTR-6.2)

Pin No.	Symbol	I/O	Descriptions	Pin No.	Symbol	I/O	Descriptions
1	DSPDA	O	Serial data output pin to DSP IC.	55	BVDD		Power supply pin. Connect to +5V.
2	DSPCL	O	Serial clock output pin to OSD IC.	56	BVSS		Ground pin.
3	AMUT	O	Audio muting output pin.	57	SBMREDY	I	Read signal input pin to transmit from the sub microprocessor.
4	VDDA	O	Data signal output pin to analog switch for video switch control.	58	HD	I	Detection pin when insert the headphones.
5	VDCLK	O	Clock signal output pin to analog switch for video switch control.	59	Z2LED	O	Zone 2 LED control output pin.
6	EVDD		Power supply pin. Connect to +5V.	61	HPMUT	O	Muting output pin to the headphone circuit.
7	EVSS		Ground pin.	62	VMUT	O	Muting output pin to the video circuit.
8	GSW	O	Gain control signal output pin for subwoofer.	63	Z2MUT	O	Muting output pin to the zone 2 circuit.
9	GFS	O	Gain control output signal pin to front, surround, and center channels.	64	TMUT	O	Muting output pin to the tuner block.
10	~CODECPD	O	Power down output pin to Codec IC.	65	OSDSTB	O	Chip select signal output pin to OSD IC.
11	INTREQ	I/O	Interrupter and abort signal input/output pin of DSP IC.	66	FDA	O	Data signal output pin to Selector, Configuration, Multi channel,
12	DSPDI	I	Serial data input pin from DIR and DSP ICs.				and Multi source control ICs.
13	DSPDO	O	Serial data output pin from DIR and DSP ICs.	67	FCL	O	Clock signal output pin to Selector, Configuration, Multi channel,
14	DSPSCK	O	Serial clock output pin to DIR and DSP ICs.				and Multi source control ICs.
15	DSPCS	O	Chip select output pin to DSP IC.	68	FSTB	O	Strobe signal output pin to Selector, Configuration, Multi channel,
18	VPP						and Multi source control ICs.
21	~DSPRST	O	Reset signal output pin to DSP IC.	69	RDSSIG/12VB	I/O	Quality check input pin of RDS demodulator signal.
22	ERF	I	Error flag input pin.	70	RDSDA/12VA	I/O	Data input pin from RDS decoder.
23	AUTO	O	Auto detection input pin of DIR IC.	71	AVDD		Power supply pin. Connect to +5V.
24	DIRCS	O	Chip select output pin to DIR IC.	72	AVSS		Ground pin.
25	~DIRPD	O	Power down signal output pin to DIR IC.	73	AVREF		Reference voltage input pin.
26	~232CTS	I	Transmission judge input pin of RS232C signal.	74	VOLH	I	Voltage detection input pin of speaker terminal.
27	~232RTS	O	Communication request signal output pin of RS232C signal.	75	~ST	I	Stereo broadcast detection input pin.
31	~RESET	I	System reset input terminal.	76	~SD	I	Station input pin.
32	XT1		Oscillator connection pin of sub system. Not used.	77	12VTRGEN	I	Initializing input terminal for 12V trigger.
33	XT2		Not used.	78	RDSEN	I	Initializing input terminal for RDS broadcast.
34	REGC			79	PLAEN	I	Initializing input terminal for PAL/NTSC.
35	X2		Ceramic oscillator connection pins.	80	AREA1	I	Initializing input terminal for broadcast area.
36	X1		Connect the 20MHz ceramic oscillator between X1 and X2 pins.	81	AREA2	I	Initializing input terminal for broadcast area.
37	VSS		Power supply pin. Connect to ground pin.	82	SDET	I	S video signal detection input pin.
38	VDD		Power supply pin. Connect to +5V.	83	SYNC	I	Judge input pin for external synchronizing of OSD.
39	CLKOUT		Not used.	86	VDSTB	O	Strobe output pin of analog switch for video controller.
41	SPZ2	O	Speaker relay control signal output pin for Zone 2.	87	~VSYNC	I	Vertical synchronizing signal input pin.
42	SEC1H	O	Amplifier gain control output pin.	88	~POFF	I	Power failure detection input pin.
43	SPCS	O	Speaker relay control output pin of center and surround channels.	89	RDSSCK	I	Clock signal input pin from RDS decoder.
44	SPF	O	Speaker relay control output pin of front channel.	90	PLLSTB	O	Chip enable signal output pin to PLL IC.
45	POWER	O	Power relay control output pin.	91	PLLDA	O	Data signal output pin to PLL IC.
46	PROTECT	I	Protection circuit detection input pin.	92	PLLCL	O	Clock signal output pin to PLL IC.
47	UPLED	O	Up direction LED control output pin of SSC.	93	VLSTB	O	Strobe signal output pin to electrical volume IC.
48	DNLED	O	Down direction LED control output pin of SSC.	94	SI	I	Signal input pin to write the program.
49	LEED	O	Left direction LED control output pin of SSC.	95	SO	O	Signal output pin to write the program.
50	RLED	O	Right direction LED control output pin of SSC.	96	SCL	O	Clock signal output pin to write the program.
51	~SBMRST	O	Reset signal output pin to sub microprocessor.	97	232RXD	I	Transmission judge input pin of RS232C signal.
52	SBMCLK	O	Clock signal output pin to transmit to the sub microprocessor.	98	232TXD	O	Communication request signal output pin of RS232C signal.
53	SBMDO	O	Data signal output pin to transmit to the sub microprocessor.	99	VOLCL/HS	O	Clock signal output pin to the electrical volume IC.
54	SBMDI	I	Data signal input pin to transmit from the sub microprocessor.	100	VOLDA	O	Data signal output pin to the electrical volume IC.

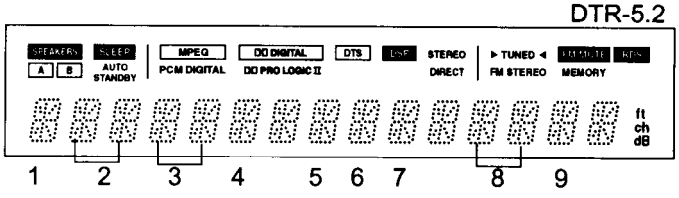
98.max

SUB MICROPROCESSOR (Model DTR-6.2)

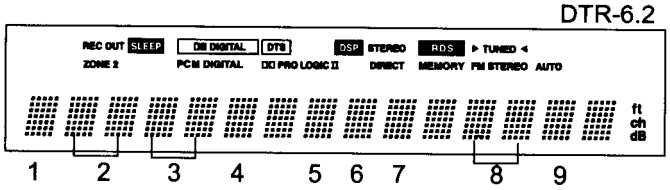


ABOUT DEBUG MODE

DTR-5.2



DTR-6.2



1. How to enter the debug mode
Press and hold down the AUDIO SEL button, then press the STANDBY/ON button to display "DEBUG MODE IN". After 5 second the unit enters the DEBUG mode.
When there is the error that can judge by the microprocessor, the error message is displayed for 3 seconds.

DSPREAD ERROR: Problem of interface between DSP and microprocessor.
DSPLOCK ERROR: Problem of lock of DSP IC.

On all occasions the microprocessor resets DSP, and DSP is restarted.

2. How to investigate the unit by the debug mode
Apply the signal that the trouble occurs, and compare with the example of display or the normal unit. If there is difference on the display, you are able to check the rejection by the explanation below. If there is not difference, the input signal comes to DSP IC and the format of signal is recognized. Check the signal from the DSP output to the speaker output.

3. Explanation of Display
1. DIR ERROR: Check of digital signal of DIR IC (AK4112).
L:There is the digital signal. H:No digital signal.
When apply the digital signal, the display is "L".
Check the circuit from digital input to DIR IC and the connection between ERF (#18) of DIR and microprocessor.

2. DIR STATUS 1: It displays the status of Addr03H that AK4112 reads from the digital signal. It shows the sampling frequency, and pre emphasis etc. When the display is difference to the table below, check the signals of DSPCL and DSPDA to confirm the communication between the microprocessor and CDTO/SCDO(#28) of AK4112.

3. DIR STATUS 2: It displays the status of Addr0DH that AK4112 reads from the digital signal. It shows the constants of input signal (DD,DTS,MPEG etc.). When the display is difference to the table below, check the signals of DSPCL and DSPDA to confirm the communication between the microprocessor and CDTO/SCDO(#28) of AK4112.

4. DIR analog/digital judgment
It displays the result of judgment about input signal by the microprocessor. D:Digital A:Analog

8. Judgment of DSP input signal
It displays the result of detection about the input signal by DSP IC. Refer to the table below.
When the display differs, check the DSP IC and circumference of DSP IC.

Digital Signal Detection		
DIR STTS2 DSP		
00	00	Null
01	01	Dolby Digital
02	02	Reserved
03	03	Pause
04	04	MPEG1 L1
05	05	MPEG1 L23/MPEG2 w/e
06	06	MPEG2 w/e
07	07	MPEGAAC
08	08	MPEG2 L1
09	09	MPEG2 L2/3
0A	0A	Reserved
0B	0B	DTS1(512)
0C	0C	DTS2(1024)
0D	0D	DTS3(2048)
	20	Silent
	21	DTS LD
	22	DTS CD
	23	Linear PCM

9. DSP DECODE
When there is the input signal in DSP IC.
"1" : When decode the signal.
"0": When does not decode the signal.

"0":When there is not the input signal in DSP IC.

When the digital signal is applied in DSP IC, the display is "0".
DSP IC does not operate.
Check the signals to the pins 22, 25, and 26 of DSP IC.
Is there the signal to pin 20 of DIR IC?

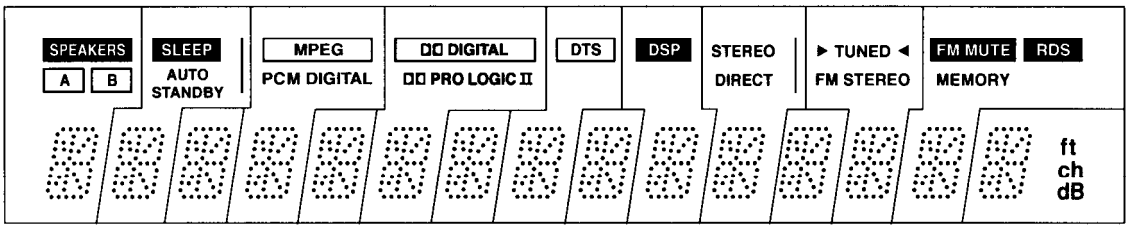
5-7. Addr15 -17 :These displays show the port condition of the flash memory control. "L" except Japanese model.

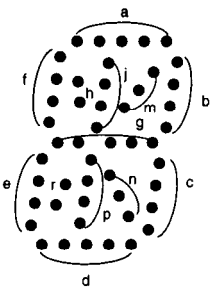
	DIR ERROR	DIR STATUS1	DIR STATUS2	ANA/DIG	ADDR15	ADDR16	ADDR17	Judgment	DECODE
DOLBY DIGITAL	L	34 or B4	01	D	L	L	H	01	1
MPEG AAC *1	L	34 or B4	07	D	L	H	L	07	1
DTS DVD	L	34 or B4	0B	D	H	L	L	0B	1
PCM 48K	L	04	**	D	L	L	L	23	1
PCM 96K	L	03 or 05	**	D	L	L	H	23	1
ANALOG	L	**	**	A	H	L	H	23	1

*1: Japanese model only **:State of last input

FL TUBE VIEW

15-BT-64GNK(Model DTR-5.2)



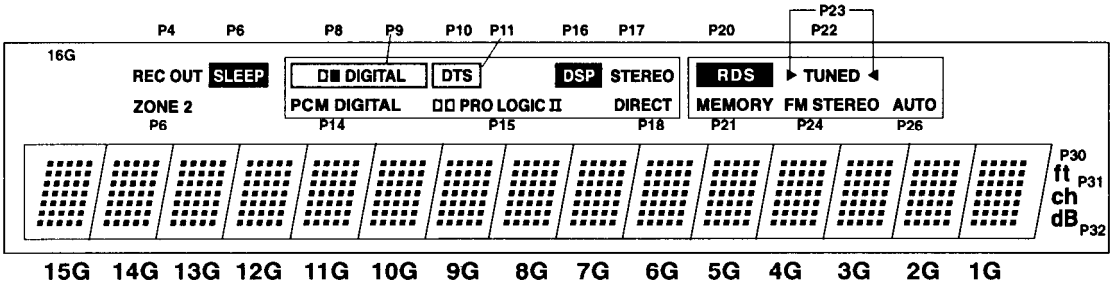


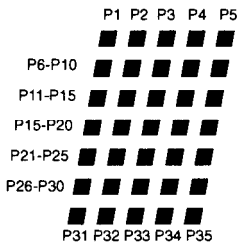
	15G	13G	11G	9G	7G	6G	5G	3G	2G	1G
P1	SPEAKERS	SLEEP	MPEG	DD DIGITAL	DTS	DSP	STEREO	TUNED	RDS	ft
P2	A	AUTO STANDBY					DIRECT	▶ ◀	FM MUTE	ch
P3	B		PCM DIGITAL	DD PRO LOGIC II				FM STEREO	MEMORY	dB

PIN NO.	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34
CONNECTION	F2	F2	NP	NP	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX

PIN NO.	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	NX	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1

16-BT-66GK(Model DTR-6.2)





PIN CONNECTION

PIN NO.	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34
CONNECTION	F2	F2	NP	NP	NC	P35	P34	P33	P32	P31	P30	P29	P28	P27	P26	P25	P24	P23	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8

PIN NO.	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	P7	P6	P5	P4	P3	P2	P1	NC	NC	NC	NC	NC	NC	16G	15G	14G	13G	12G	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1

F1,F2:fllament NP: No pin nc: No connection

PRINTED CIRCUIT BOARD PARTS LIST (Model DTR-5.2)

DSP CIRCUIT PC BOARD (NADG-7066-1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q101,Q102	22241383R2,	NJM4565M-D,
Q405-Q409	22240489R1NE or	MPC4570G2-T1(MST) or
Q802-Q804	22240581R2	NJM4565M
Q121	222740046R2TO	TC74HCU04F
Q151	22241520R2	AK4112AVF
Q181	22241537R2	MPD4721GS
Q401	22240943R2	TC9163AF
Q402	22240981R2	TC9162AF
Q403	22241444R2	TC9482F
Q701	22241518R9	CS493263-CL
Q702	22278025DR2NE	MPC2925T
Q703	22240935R2	TC7WU04FU
Q704	22278033DR2NE	MPC2933T
Q751	222740077R2TO	TC74HCT7007AF
Q752	22274541ER2TO	TC74VHC541FT
Q7701	22241634R3	MPD703033AGC-099-8EU
Q801	22241529R3	AK4527VQ
	Photo couplers	
Q182	24120043	ON3131
U121,U122	24120083 or	GP1FA550RZ or
	24120086	GP1FA551RZ
	Transistors	
Q183,Q185	2214470R2 or	RN1402 or
	2216190R2	KRC102S
Q411-Q416	2215410R2	RN1441
Q417,Q418	2214530R2 or	RN2402 or
Q433	2216220R2	KRA102S
Q421-Q426	2215410R2	RN1441
Q428	2215410R2	RN1441
Q7702	2214490R2 or	RN1404 or
	2216210R2	KRC104S
	Diodes	
D101-D108	223234R2 or	1SS352 or
D181,D182	223269R2	1SS355
D401,D402	223234R2 or	1SS352 or
D404	223269R2	1SS355
D7701-D7703	223234R2 or	1SS352 or
D7706	223269R2	1SS355
D7705	224490620R2	UDZ6.2B
	Oscillators	
X151	3010323R2	HC-49/U03C 12.288MHz
X701	3010324R2	CSTCV12.2MTJ0C4
X7701	3010342R2	CSTCW2000MX01
	Coils	
L121,L122	231237K470R2	NCH-1479
L152-L154	231237M022R2	NCH-1471
L701	231237K470R2	NCH-1479
L702,L703	231237M022R2	NCH-1471
L801,L802	231237K470R2	NCH-1479
L155,L156	230958R1	BK1608LM182-T
R121,R122	230958R1	BK1608LM182-T
	Capacitors	
C106	356741009R2	10 μF,16 V,Elect.
C111,C112	356724709R2	47 μF,6.3 V,Elect.
C127,C132	356724709R2	47 μF,6.3 V,Elect.
C152,C158	356724709R2	47 μF,6.3 V,Elect.
C181,C184	356721019R2	100 μF,6.3 V,Chip elect.
C182,C185	356780109R2	1 μF,50 V,Chip elect.
C187	373022234R2	0.022 μF+/-5 %,50 V,Plastic
C188,C189	356780109R2	1 μF,50 V,Chip elect.
C417-C422	356741009R2	10 μF,16 V,Elect.
C435-C440	356721019R2	100 μF,6.3 V,Elect.
C457-C462	356744709R2	47 μF,16 V,Elect.
C471-C476	356741009R2	10 μF,16 V,Elect.
C477,C478	374724744	0.47 μF+/-5 %,50 V,Plastic
C706,C716	356724709R2	47 μF,6.3 V,Elect.
C719,C723	356724709R2	47 μF,6.3 V,Elect.
C7703	356724709R2	47 μF,6.3 V,Elect.
C7705,C7706	356780109R2	1 μF,50 V,Elect.
C7712	356721019R2	100 μF,6.3 V,Elect.
C806	356721019R2	100 μF,6.3 V,Elect.
C808	356742209R2	22 μF,16 V,Elect.
C809	356724709R2	47 μF,6.3 V,Elect.
C831-C836	356741009R2	10 μF,16 V,Elect.
C867-C870	356741019R2	100 μF,16 V,Elect.
	Terminals	
P121	25045646	NPJ-2PDO451
P182	25045647	HSJ1002-01-1020
P401	25045585	NPJ-6PDBRW396
P407	25045477	NPJ-1PDBL295
	Sockets	
P184	25052379	NSCT-9P2277
P412B	25052580R2	NSCT-14P2477
P404	2009990651UL	NSAS-20P0906
	Plugs	
JL405B	25055630	NPLG-9P592
P403	25055701	NPLG-5P657
P409B	25055807	NPLG-18P763
P410B	25055708	NPLG-12P664
P411B	25055708	NPLG-12P664
P702B	25055807	NPLG-18P763
P7702	25055701	NPLG-5P657

POWER AMPLIFIER A PC BOARD (NAAF-7068-1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5000-Q5004	2210755,	2SC1775A-E,
Q5010-Q5014	2210756,	2SC1775A-F,
Q5020-Q5024	2211733 or	2SC1845-E or
	2215896	KTC3200-BL
Q5030-Q5034	2211353,	2SA949-O,
Q5040-Q5044	2211354,	2SA949-Y,
Q5050-Q5054	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q5060-Q5064	2211633,	2SC2229-O,
	2211634,	2SC2229-Y,
	2215854 or	KTC3206-Y or
	2215853	KTC3206-O
	Diodes	
D5000-D5004	224470562	MTZJ5.6B
	Capacitors	
C5000-C5004	393381017	100 μF,50 V,Elect.
C5010-C5014	374721515	150 pF+/-10 %,50V ,Plastic
C5040-C5044	393343317	330 μF,16 V,Elect.
C5050-C5054	354781009	10 μF,50 V,Elect.
C5070-C5074	354791009	10 μF,100 V,Elect.
C5080-C5084	354791009	10 μF,100 V,Elect.
C5090-C5094	354784709	47 μF,50 V,Elect.
C5120-C5124	393372207	22 μF,63 V,Elect.
C5130-C5134	393372207	22 μF,63 V,Elect.
C5401	354780109	1μF,50 V,Elect.

CAUTION: Replacement for transistor of mark * , if necessary must be made from the same beta group (HFE) as the original type.

CIRCUIT NO.	PART NO.		DESCRIPTION
	Resistors		
R5130-R5134	443528214		820ohm+/-5 %,1/2 W,Metal oxide
R5140-R5144	443528214		820ohm+/-5 %,1/2 W,Metal oxide
R5150-R5154	443521034		10kohm+/-5 %,1/2 W,Metal oxide
R5160-R5164	443521024		1kohm+/-5 %,1/2 W,Metal oxide
R5170-R5174	443528214		820ohm+/-5 %,1/2 W,Metal oxide
R5180-R5184	443523304		33ohm+/-5 %,1/2 W,Metal oxide
R5190-R5194	443521014		100 ohm+/-5 %,1/2 W,Metal oxide
R5200-R5204	443521014		100 ohm+/-5 %,1/2 W,Metal oxide
R5230-R5234	443521004		0 ohm+/-5 %,1/2 W,Metal oxide
R5240-R5244	443521004		0 ohm+/-5 %,1/2 W,Metal oxide
R5280-R5284	443521034		0kohm+/-5 %,1/2 W,Metal oxide
	Sockets		
P6000A-P6004A	25052287		NSCT-4P2184
P6011A	25052295		NSCT-12P2192
	Plug		
P404	25055154		NPLG-10P138

TERMINAL PC BOARD (NAETC-7069-1H)

CIRCUIT NO.	PART NO.		DESCRIPTION
	IC		
Q6931	222780565JRC		NJM78M56FA
	Transistors		
Q5303,Q5307	2215864,		KTC3199-GR,
	2213285,		2SC1740S-S,
	2213284 or		2SC1740S-R or
	2212115		2SC2458-GR
Q5308,Q5309	2215770,		KRA102M,
	2213510 or		DTA114ES or
	2214350		RN2202
	Diodes	*	
D5306,D5307	223163,	*	1SS133,
	223205 or	*	1SS270A or
	223222	*	WG713A
D6932,D6933	22380260,	*	RL1N4003,
	22380032 or	*	1SR139-100 or
	22380035	*	GP104003E
	Capacitors	*	
C6931	354751029	*	1000 µF,25 V,Elect.
C6933	354741009	*	10 µF,16 V,Elect.
	Resistor	*	
R6935	441721514	*	150 ohm+/-5 %,2 W,Metal oxide
	Sockets	*	
P410A,P411A	25051237	*	NSCT-12P1027
P6931A	25051527		NSCT-16P1314
P7002B	25052242,		NSCT-9P2139,
	25050949,		NSCT-9P736,
	25051313 or		NSCT-9P1102 or
	25051853		NSCT-9P1640
	Plug		
P6411	25055807		NPLG-18P763
	Heatsink		
Q6931A	27160211		RAD-68
	Screw		
Q6931B	838430107		3TTB+10S(BC),Self-tapping

PRIMARY CIRCUIT PC BOARD (NAPS-7070-1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q921	2215864,	KTC3199-GR,
	2213285.	2SC1740S-S,
	2213284 or	2SC1740S-R or
	2212115	2SC2458-GR

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D921-D924	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
D925	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
	Power transformer	
T902	2301381	⚠ NPT-1358D
	Capacitors	
C901	3500196S	⚠ RE275V-103M,IS
C902	3300030	⚠ DE1307E472M-KH,IS
C922	354762219	220 µF,35 V,Elect.
	Resistors	
R901	431533355	⚠ 3.3Mohm,1/2 W,Solid
R924	443522704	27ohm+/-5 %,1/2 W,Metal oxide
	Relay	
RL901	25065561,	⚠ NRL-1P5A-DC12-127,
	25065508,	⚠ NRL-1P10A-DC12-093,
	25065515 or	⚠ NRL-1P5A-DC12-096 or
	25065526	⚠ NRL-1P5A-DC12-102
	Outlet	
P902	25051126	⚠ NSCT-4P913
	Fuse	
F901	252166	⚠ 6.3A-UL/T237, Fuse
	Fuseholders	
F901A,F901B	25052133	NSCT-1P2031
	Sockets	
P931A	25051230	NSCT-5P1020
P901D	2009990650UL	NSAS-4P0905
	Plugs	
P901A	25055675 or	NPLG-2P631 or
	25056028	NPLG-2P0978

SPEAKER TERMINAL A PC BOARD (NAETC-7071-1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P6803	25060297	NTM-6PDMN228
	Sockets	
JL6803B,JL6804B	25050269	NSCT-5P97

SPEAKER TERMINAL B PC BOARD (NAETC-7072-1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Terminal	
P6802	25060296	NTM-8PDMN227
	Socket	
P6805A	25051127	NSCT-8P914

POWER SWITCH PC BOARD (NASW-7074-1H)

CIRCUIT NO.	PART NO.	DESCRIPTION
S906	25035550	NPS-111-L512P,Power switch

POWER AMPLIFIER B PC BOARD (NAAF-7077-1J)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q6000-Q6004	2213284 or	2SC1740S-R or
Q6010-Q6014	2213285	2SC1740S-S
Q6020-Q6024	2213354,	2SA933S-R,
	2213355,	2SA933S-S,
	2212125 or	2SA1048-GR or
	2215995	KTA1267-GR
Q6030-Q6034	2203434 or	KTD2061-Y or
	2203010	2SC5171
Q6040-Q6044	2203424 or	KTB1369-Y or
	2203000	2SA1930

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q6050-Q6054	2203563, *	KTC5242-O
	2203562, *	KTC5242-R
	2202843, *	2SC5242-O
	2202842, *	2SC5242-R
	2201653, *	2SC3856-O
	2201655 or *	2SC3856-P
	2201654 *	2SC3856-Y,or
Q6060-Q6064	2203553, *	KTA1962-O
	2203552, *	KTA1962-R
	2202833, *	2SA1962-O
	2202832, *	2SA1962-R
	2201663, *	2SA1492-O
	2201665 or *	2SA1492-P
	2201664 *	2SA1492-Y,or
Q6070-Q6074	2210755,	2SC1775A-E,
	2210756,	2SC1775A-F,
	2211732,	2SC1845-F,
	2211733,	2SC1815-E,
	2215895 or	KTC3200-GR or
	2215896	KTC3200-BL
Q6600-Q6602	2215864,	KTC3199-GR,
Q6701,Q6702	2212115,	2SC2458-GR,
Q6901	2213284 or	2SC1740S-R or
	2213285	2SC1740S-S
Q6703	2211792,	2SA992-F,
	2211793,	2SA992-E,
	2215885 or	KTA1268-GR or
	2215886	KTA1268-BL
Q6704	2212125,	2SA1048-GR,
	2213354,	2SA933S-R,
	2215995 or	KTA1267-GR or
	2213355	2SA933S-S
	Diodes	
D6000-D6004	223163,	1SS133,
D6600-D6602	223205 or	1SS270A or
D6701,D6702	223222	WG713A
D6703,D6704	224470512	MTZJ5.1B
D6705,D6706	22380260,	RL1N4003
D6901,D6902	22380032 or	1SR139-100
	22380035	GP104003E
D6903,D6904	22380274	RS603M
D6906	223163,	1SS133,
	223205 or	1SS270A or
	223222	WG713A
	Capacitors	
C6020-C6024	354784709	47 μF,50 V,Elect.
C6030-C6034	374724734	0.047 μF+/-5 %,50 V,Plastic
C6701,C6706	354721019	100 μF,6.3 V,Elect.
C6704	354780109	1 μF,50 V,Elect.
C6708	374722234	0.022 μF+/-5 %,50 V,Plastic
C6901,C6902	3504376	12000 μF,63 V,Elect.
C6903	374722234	0.022 μF+/-5 %,50 V,Plastic
C6904-C6907	374793344	0.33 μF+/-5 %,63 V,Plastic
	Resistors	
R6040-R6044	5210258	N06HR1KBC,Trimming
R6070-R6074	443521814	180ohm+/-5 %,1/2 W,Metal oxide
R6080-R6084	453530224	2.2ohm+/-5 %,1/2 W,Metal
R6090-R6094	453530224	2.2ohm+/-5 %,1/2 W,Metal
R6100-R6104	4000201,	RF-5EGKR22,
	4000132 or	RGC55 0.22 or
	4500245	BPR55FK0.22,Metal plate

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R6130-R6134	453630824	8.2ohm+/-5 %,1/2 W,Metal
R6850,R6851	443523914	390ohm+/-5 %,1/2 W,Metal oxide
R6904-R6907	453532294	0.22ohm+/-5 %,1/2 W,Metal
	Relays	
RL6600-RL6602	25065586	NRL-2P5A-DC24-142,
	25065563 or	NRL-2P5A-DC24-129 or
	25065517	NRL-2P5A-DC24-098
RL6604	25065574	NRL-1P5A-DC24-134
RL6901,RL6902	25065561,	NRL-1P10A-DC12-127,
	25065526,	NRL-1P10A-DC12-102,
	25065508 or	NRL-1P10A-DC12-093 or
	25065515	NRL-1P10A-DC12-096
	Switch	
S6901	25065581	NSS-22203
	AC inlet	
P901B	25055960	⚠ NPLG-2P913
	Fuses	
F6901,F6902	252198	⚠ 8A-UL, Fuse
	Fuseholders	
F6901A,F6901B	25052133	⚠ NSCT-1P2031
F6902A,F6902B	25052133	⚠ NSCT-1P2031
	Sockets	
JL6803A,JL6804A	25051109	NSCT-5P896
JL6951A,JL6952A	25051109	NSCT-5P896
	Plugs	
P6000-P6004	25056009	NPLG-4P0959
P6011	25056017	NPLG-12P0967
P6080-P6084	25055038	NPLG-2P29
P6805	25055678	NPLG-8P634
P6931	25055805	NPLG-16P761
P931	25055701	NPLG-5P657
	Heatsink	
D6903B	27160483	RAD-152
	Screws	
D6903A,D6904A	838430107	3TTB+10S(BC), Self-tapping

REGULATOR CIRCUIT PC BOARD (NAPS-7078-1J)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q9501	2211455 or	2SA1015-GR or
	2215975	KTA1266-GR
	Diodes	
D9501	22380022 or	RBV402 or
	22380285	RS403M
D9502-D9507	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
D9508	224473304	MTZJ33D
	Capacitors	
C9501-C9503	374721044	0.1 μF+/-5 %,50 V,Plastic
C9505	354762229	2200 μF,35 V,Elect.
C9506	354761029S	1000 μF,35 V,Elect.
C9507	354762219	220 μF,35 V,Elect.
C9508	354744729S	4700 μF,16 V,Elect.
C9510	354772219	220 μF,63 V,Elect.
	Resistors	
R6907	453532294	0.22ohm+/-5 %,1/2 W,Metal
R9501,R9502	453530104	1ohm+/-5 %,1/2 W,Metal
R9506	443522204	22ohm+/-5 %,1/2 W,Metal oxide
R9521	453530224	2.2ohm+/-5 %,1/2 W,Metal
	Fuse	
F9501	252160	⚠ 2.5A-UL/T-237, Fuse

CIRCUIT NO.	PART NO.	DESCRIPTION
	Fuseholders	
F9501A,F9501B	25052133	⚠ NSCT-1P2031
	Sockets	
JL6951B,JL6952B	25051109	NSCT-5P896
JL9501A	25051095	NSCT-11P882

CONSTANT VOLTAGE PC BOARD (NAPS-7079-1J>

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q6402	222780155JRC	NJM78M15FA
Q6403	222790155JRC	NJM79M15FA
Q6405	222780054JRC	NJM7805FA
Q6406	222780055JRC	NJM78M05FA
	Capacitors	
C6403-C6406	394561007	10 µF,35 V,Elect.
C6409-C6412	394561007	10 µF,35 V,Elect.
	Resistors	
R6402	443621004	10ohm+/-5 %,1 W,Metal oxide
R6403	443523304	33ohm+/-5 %,1/2 W,Metal oxide
R6407,R6408	452730824	8.2ohm+/-5 %,2 W,Metal
R6410	452730684	6.8ohm+/-5 %,2 W,Metal
	Sockets	
JL6402A	25051088	NSCT-4P875
JL9501B	25051095	NSCT-11P882
P6411A	25051529	NSCT-18P1316
	Plug	
P6401	25055042	NPLG-3P32

THERMAL DETECTOR CIRCUIT PC BOARD (NAETC-7081-1J)

CIRCUIT NO.	PART NO.	DESCRIPTION
R5380	4000151	PTH9M04BD222TS2F333,Thermister
R5381	4000149	PTH9M04BB222TS2F333,Thermister
JL6402B	25051088	NSCT-4P875,Socket

DISPLAY CIRCUIT PC BOARD (NADIS-7084-1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7001	212217	15-BT-74GNK
	Remote sensor	
U7001	241330	PIC-26043TE2
	IC	
Q7002	22241571R3	MPD780232GC-030-8BT
	Transistors	
Q7004,Q7006	2216190R2 or	KRC102S or
Q7101	2214470R2	RN1402
Q7103-Q7106	2216190R2 or	KRC102S or
	2214470R2	RN1402
Q7005	2214540R2 or	RN2403 or
Q7005	2216230R2	KRA103S
	Diodes	
D7001,D7002	223234R2 or	1SS352 or
D7004-D7006	223269R2	1SS355
D7003	224490820R2	UDZ8.2B
D7007	224490510R2	UDZ5.1B
D7008	224490270R2	UDZ2.7B
D7101	225290	SEL4110R
D7103-D7106	225291D	SEL4910D-D
	Coil	
L7001	231237M022R2	NCH-1471
	Oscillator	
X7501	3010242	CST5.00MGW
	Capacitors	
C7001	355722219	220 µF,6.3 V,Elect.
C7002,C7502	375524744	0.47 µF+/-5 %,50 V,Plastic
C7007	355783309	33 µF,50 V,Elect.
C7016,C7517	353721019	100 µF,6.3 V,Elect.
C7503	3000120	FMC0H104Z,Super
	Sockets	
P412A	25051896 or	NSCT-14P1683 or
	25052535	NSCT-14P2432
P7002A	25052055 or	NSCT-9P1842 or
	25051853	NSCT-9P1640
P7003A	25051089	NSCT-5P876
P7004A	25051087	NSCT-3P874
	Holder	
Q7001A	27191074	(FL)
	Relay	
RL7001	25065612	NRL-2P1A-DC4.5-157
	Switches	
S7011-S7017	25035652	NPS-111-S604
S7111,S7317	25035652	NPS-111-S604
S7112-S7117	25035652	NPS-111-S604
S7211-S7216	25035652	NPS-111-S604
S7311	25065608	EC11B30C17
S7312-S7315	25035652	NPS-111-S604

VOLUME PC BOARD (NASW-7085-1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
P7004B	25051087	NSCT-3P874,Socket
S7001	25065611	EC16B24C25,Rotary encoder

HEDPHONE TERMINAL PC BOARD (NAETC-7086-1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
P7003B	25051089	NSCT-5P876,Socket
P7005	25045385	YKB26-5153,Headphone terminal

TERMINAL PC BOARD (NAETC-7087-1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q1005	222780125	78M12HF
	Transistors	
Q1501	2212855 or	2SB1068-U or
	2212853	2SB1068-K
Q1502	2214470R2 or	RN1402 or
	2216190R2	KRC102S
	Capacitors	
C1012,C1016	354780339	3.3 µF,50 V,Elect.
C1014	354741009	10 µF,16 V,Elect.
	Thermistor	
R1507	4000195	RXE030
	Sockets	
P1001A	25052248,	NSCT-15P2145,
	25051859 or	NSCT-15P1646 or
	25052061	NSCT-15P1848
P403A	25051230	NSCT-5P1020
P409A,P702A	25051529	NSCT-18P1316
	Plugs	
P205A	25055706	NPLG-10P662
P311A	25055708	NPLG-12P664

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

TONE CONTROL CIRCUIT PC BOARD (NAAF-7088-1L)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3501,Q3502	22241383R2 or	NJM4565M-D or
	22240489R1NE	MPC4570G2-T1(MST)
	Capacitors	
C3501,C3502	354744709	47 μF,16 V,Elect.
C3505-C3508	354744709	47 μF,16 V,Elect.
C3509,C3510	374721534	0.015 μF+/-5 %,50 V,Plastic
C3511,C3512	354744709	47 μF,16 V,Elect.
C3513,C3514	374721534	0.015 μF+/-5 %,50 V,Plastic
C3515,C3516	354744709	47 μF,16 V,Elect.
	Resistors	
R3509,R3510	5104356	N14RLC100KWT20Z,Variable
	Socket	
JL351A	25051093	NSCT-9P880

S VIDEO TERMINAL PC BOARD(NAVD-7095-1J)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q207,Q208	22240373	BA7625
	Transistors	
Q201,Q202	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
Q203-Q206	2214375R2 or	2SA1162-GR or
	2216185R2	KTA1504-GR
Q209	2214530R2 or	RN2402 or
CIRCUIT NO.	2216220R2	KRA102SDESCRIPTION
	Diodes	
D201,D202	223234R2 or	1SS352 or
	223269R2	1SS355
	Capacitors	
C204,C206	354780229	2.2 μF,50 V.Elect.
C208,C214	354724719	470 μF,6.3 V.Elect.
C210,C212	354780229	2.2 μF,50 V.Elect.
C217,C218	354724719	470 μF,6.3 V.Elect.
	Terminal	
P201	25045504	NPJ-1PDBL319
	Socket	
JL201B	25051093	NSCT-9P880
P202,P203	25051957	NSCT-12P1744
P205B	25051235	NSCT-10P1025

COMPOSITE VIDEO TERMINAL PC BOARD (NAVD-7096-1J)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q261	22240373	BA7625
	Transistors	
Q262,Q264	2214375R2 or	2SA1162-GR or
	2216185R2	KTA1504-GR
Q266	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
	Diodes	
D261,D262	223234R2 or	1SS352 or
	223269R2	1SS355
	Capacitors	
C261	354724719	470 μF,6.3 V.Elect.
C263	354780229	2.2 μF,50 V.Elect.
C264,C266	354724719	470 μF,6.3 V.Elect.
C265	354780109	1 μF,50 V.Elect.
C267-C269	354780229	2.2 μF,50 V.Elect.
	Terminals	
P261	25045504	NPJ-1PDBL319
P262,P263	25045363	NPJ-3PDYE208
	Socket	
JL201A	25051093	NSCT-9P880

INPUT TERMINAL PC BOARD (NAAF-7097-1J)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301,Q361	22241383R2 or	NJM4565M-D or
	22240489R1NE	MPC4570G2-T1(MST)
Q311	22240864	TC9273N-004
	Capacitors	
C303,C304	354741009	10 μF,16 V.Elect.
C307,C308	354721019	100 μF,6.3 V.Elect.
C309,C310	374726824	6800 pF+/-5 %,50 V,Plastic
C311,C312	374721824	1800 pF+/-5 %,50 V,Plastic
C313,C314	354741009	10 μF,16 V.Elect.
C351,C352	354744719	470 μF,16 V.Elect.
C355,C356	354744709	47 μF,16 V.Elect.
C361-C364	393384707	47 μF,50 V.Elect.
	Terminals	
P301-P303	25045583 or	NPJ-6PDRW394 or
	25045565	NPJ-6PDBL380
	Socket	
P311B	25051237	NSCT-12P1027

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CAUTION: Replacement for transistor of mark * , if necessary must be made from the same beta group (HFE) as the original type.

PRINTED CIRCUIT BOARD PARTS LIST (Model DTR-6.2)

DSP CIRCUIT PC BOARD (NADG-7066-1E)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q101,Q102	22241383R2,	NJM4565M-D,
Q121	222740046R2TO	TC74HCU04F
Q151	22241520R2	AK4112AVF
Q181	22241537R2	MPD4721GS
Q401	22240943R2	TC9163AF
Q402	22240981R2	TC9162AF
Q403	22241444R2	TC9482F
Q405-Q409	22240489R1NE or	MPC4570G2-T1(MST) or
Q701	22241518R9	CS493263-CL
Q702	22278025DR2NE	MPC2925T
Q703	22240935R2	TC7WU04FU
Q704	22278033DR2NE	MPC2933T
Q751	222740077R2TO	TC74HCT7007AF
Q752	22274541ER2TO	TC74VHC541FT
Q7701	22241570R3	MPD703033AGC-080-8EU
Q801	22241529R3	AK4527VQ
Q802-Q804	22240581R2	NJM4565M
	Photo couplers	
Q182	24120043	ON3131
U121,U122	24120083 or	GP1FA550RZ or
	24120086	GP1FA551RZ
	Transistors	
Q183,Q185	2214470R2 or	RN1402 or
	2216190R2	KRC102S
Q411-Q416	2215410R2	RN1441
Q417,Q418	2214530R2 or	RN2402 or
Q433,Q434	2216220R2	KRA102S
Q421-Q426	2215410R2	RN1441
Q428	2215410R2	RN1441
Q7702	2214490R2 or	RN1404 or
	2216210R2	KRC104S
	Diodes	
D101-D108	223234R2 or	1SS352 or
D401,D402	223269R2	1SS355
D181,D182	223234R2 or	1SS352 or
D404,D405	223269R2	1SS355
D7701-D7703	223234R2 or	1SS352 or
D7706	223269R2	1SS355
D7705	224490620R2	UDZ6.2B
	Oscillators	
X151	3010323R2	HC-49/U03C 12.288MHz
X701	3010324R2	CSTCV12.2MTJ0C4
X7701	3010342R2	CSTCW2000MX01
	Coils	
L121,L122	231237K470R2	NCH-1479
L152-L154	231237M022R2	NCH-1471
L701	231237K470R2	NCH-1479
L702,L703	231237M022R2	NCH-1471
L801,L802	231237K470R2	NCH-1479
L155,L156	230958R1	BK1608LM182-T
R121,R122	230958R1	BK1608LM182-T
	Capacitors	
C106	356741009R2	10μF,16 V,Elect.
C111,C112	356724709R2	47μF,6.3 V,Elect.
C127,C132	356724709R2	47μF,6.3 V,Elect.
C152,C158	356724709R2	47μF,6.3 V,Elect.
C181,C184	356721019R2	100μF,6.3 V,Elect.
C182,C185	356780109R2	1μF,50 V,Elect.
C188,C189	356780109R2	1μF,50 V,Elect.
C417-C422	356741009R2	10μF,16 V,Elect.
C435-C440	356721019R2	100μF,6.3 V,Elect.
C457-C462	356744709R2	47μF,16 V,Elect.
C471-C476	356741009R2	10μF,16 V,Elect.
C477,C478	374724744	0.47μF+/-5 %,50 V,Plastic
C706,C716	356724709R2	47μF,6.3 V,Elect.
C719,C723	356724709R2	47μF,6.3 V,Elect.
C7703	356724709R2	47μF,6.3 V,Elect.
C7705,C7706	356780109R2	1μF,50 V,Elect.
C7712,C806	356721019R2	100μF,6.3 V,Elect.
C808	356742209R2	22μF,16 V,Elect.
C809	356724709R2	47μF,6.3 V,Elect.
C831-C836	356741009R2	10μF,16 V,Elect.
C867-C870	356741019R2	100μF,16 V,Elect.
	Terminals	
P407	25045477	NPJ-1PDBL295
P121	25045646	NPJ-2PDO451
P401	25045585	NPJ-6PDBRW396
P182	25045647	HSJ1002-01-1020
	Sockets	
P184	25052379	NSCT-9P2277
P412B	25052580R2	NSCT-14P2477
P404	2009990651UL	NSAS-20P0906
	Plugs	
JL405B	25055630	NPLG-9P592
P403	25055704	NPLG-8P660
P409B	25055807	NPLG-18P763
P410B	25055708	NPLG-12P664
P411B	25055708	NPLG-12P664
P702B	25055807	NPLG-18P763
P7702	25055701	NPLG-5P657

POWER AMPLIFIER A PC BOARD (NAAF-7068-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q5000-Q5004	2210755,	2SC1775A-E,
Q5010-Q5014	2210756,	2SC1775A-F,
Q5020-Q5024	2211733 or	2SC1845-E or
	2215896	KTC3200-BL
Q5030-Q5034	2211353,	2SA949-O,
Q5040-Q5044	2211354,	2SA949-Y,
Q5050-Q5054	2215843 or	KTA1024-O or
	2215844	KTA1024-Y
Q5060-Q5064	2211633,	2SC2229-O,
	2211634,	2SC2229-Y,
	2215854 or	KTC3206-Y or
	2215853	KTC3206-O
	Diodes	
D5000-D5004	224470562	MTZJ5.6B
	Capacitors	
C5000-C5004	393384707	47μF,50 V,Elect.
C5010-C5014	374721515	150 pF+/-10 %,50 V,Plastic
C5040-C5044	393343317	330μF,16 V,Elect.
C5050-C5054	354781009	10μF,50 V,Elect.
C5070-C5074	354791009	10μF,100 V,Elect.
C5080-C5084	354791009	10μF,100 V,Elect.
C5090-C5094	354784709	47μF,50 V,Elect.
C5120-C5124	393392207	22μF,100 V,Elect.
C5130-C5134	393392207	22μF,100 V,Elect.
C5401	354780109	1μF,50 V,Elect.
	Resistors	
R5130-R5134	443528214	820ohm+/-5 %,1/2 W,Metal oxide
R5140-R5144	443528214	820ohm+/-5 %,1/2 W,Metal oxide
R5150-R5154	443521034	10kohm+/-5 %,1/2 W,Metal oxide
R5160-R5164	443521024	1kohm+/-5 %,1/2 W,Metal oxide
R5170-R5174	443528214	820ohm+/-5 %,1/2 W,Metal oxide
R5180-R5184	443523304	33ohm+/-5 %,1/2 W,Metal oxide
R5190-R5194	443521014	100 ohm+/-5%,1/2 W,Metal oxide
R5200-R5204	443521014	100 ohm+/-5 %,1/2 W,Metal oxide
R5230-R5234	443521004	10 ohm+/-5 %,1/2 W,Metal oxide
R5240-R5244	443521004	10 ohm+/-5 %,1/2 W,Metal oxide
R5280-R5284	443521034	10kohm+/-5 %,1/2 W,Metal oxide

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Sockets	
P6000A	25052287	NSCT-4P2184
P6001A	25052287	NSCT-4P2184
P6002A	25052287	NSCT-4P2184
P6003A	25052287	NSCT-4P2184
P6004A	25052287	NSCT-4P2184
P6011A	25052295	NSCT-12P2192
	Plug	
P404A	25055154	NPLG-10P138
	Terminal	
P6904A	25060302	NTM-1P233(M1969)

TERMINAL PC BOARD (NAETC-7069-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q6931	222780565JRC	NJM78M56FA
	Transistors	
Q5303,Q5307	2215864, 2213284 or 2212115	KTC3199-GR, 2SC1740S-R or 2SC2458-GR
Q5308,Q5309	2215770, 2213510 or 2214350	KRA102M, DTA114ES or RN2202
	Diodes	
D5306,D5307	223163 or 223205	1SS133 or 1SS270A
D5306,D5307	223222	WG713A
D6932,D6933	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
	Capacitors	
C6931	354751029	1000 μF,35 V,Elect.
C6933	354741009	10 μF,16 V,Elect.
	Resistor	
R6935	441721514	150 ohm+/-5 %,2 W,Metal oxide
	Sockets	
P410A,P411A	25051237	NSCT-12P1027
P6931A	25051527	NSCT-16P1314
P7002B	25052242, 25050949, 25051313 or 25051853	NSCT-9P2139, NSCT-9P736, NSCT-9P1102 or NSCT-9P1640
	Plug	
P6411	25055807	NPLG-18P763
	Heatsink	
Q6931A	27160211	RAD-68
	Screw	
Q6931B	838430107	3TTB+10S(BC),Self-tapping

PRIMARY CIRCUIT PC BOARD (NAPS-7070-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q921	2215864, 2213285. 2213284 or 2212115	KTC3199-GR, 2SC1740S-S, 2SC1740S-R or 2SC2458-GR
	Diodes	
D921-D924	22380260, 22380032 or 22380035	RL1N4003, 1SR139-100 or GP104003E
D925	223163, 223205 or 223222	1SS133, 1SS270A or WG713A
	Power transformer	
T902	2301381	⚠ NPT-1358D

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C901	3500196S	⚠ RE275V-103M,.IS
C902	3300030	⚠ DE1307E472M-KH,IS
C922	354762219	220 μF,35 V,Elect.
	Resistors	
R901	431533355	⚠ 3.3Mohm,1/2 W,Solid
R924	443522704	⚠ 27ohm+/-5 %,1/2 W,Metal oxide
	Relay	
RL901	25065584, 25065516 or 25065588	⚠ NRL-1P10A-DC12-140, ⚠ NRL-1P10A-DC12-097 or ⚠ NRL-1P10A-DC12-143
	Outlet	
P902	25051126	⚠ NSCT-4P913
	Fuseholders	
F901A,F901B	25052133	NSCT-1P2031
	Label	
F901D	29360842	Fuse
	Socket	
P931A	25051230	NSCT-5P1020
	Plugs	
P901A	25055675	NPLG-2P631
P901A	25056028	NPLG-2P0978

SPEAKER TERMINAL A PC BOARD (NAETC-7071-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C6840,C6841 ,C6844	374721024	1000 pF+/-5 %,50 V,Plastic
	Terminal	
P6803	25060297	NTM-6PDMN228
	Sockets	
JL6803B,JL6804B	25050269	NSCT-5P97

SPEAKER TERMINAL B PC BOARD (NAETC-7072-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C6845,C6846	374721024	1000 pF+/-5 %,50 V,Plastic
	Terminal	
P6802	25060296	NTM-8PDMN227
	Socket	
P6805A	25051127	NSCT-8P914

POWER SWITCH PC BOARD (NASW-7074-1A)

CIRCUIT NO.	PART NO.	DESCRIPTION
S906	25035550	NPS-111-L512P,Power switch

POWER AMPLIFIER B PC BOARD (NAAF-7077-1C>

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistors	
Q6000-Q6004	2213284 or	2SC1740S-R or
Q6010-Q6014	2213285	2SC1740S-S
Q6020-Q6024	2213354, 2213355, 2212125 or 2215995	2SA933S-R, 2SA933S-S, 2SA1048-GR or KTA1267-GR
Q6030-Q6034	2203434 or 2203010	KTD2061-Y or 2SC5171
Q6040-Q6044	2203424 or 2203000	KTB1369-Y or 2SA1930
Q6070-Q6074	2214984 or 2214985	2SC2631-R or 2SC2631-S
Q6600-Q6602	2215864,	KTC3199-GR,
Q6701,Q6702	2212115,	2SC2458-GR,
Q6901	2213284 or 2213285	2SC1740S-R or 2SC1740S-S

CAUTION: Replacement for transistor of mark * , if necessary must be made from the same beta group (HFE) as the original type.

CIRCUIT NO.	PART NO.		DESCRIPTION
	Transistors		
Q6050-Q6054	2202823 or	*	2SC5200-O or
	2202822	*	2SC5200-R,Transistor
Q6060-Q6064	2202813 or	*	2SA1943-O or
	2202812	*	2SA1943-R,Transsitor
Q6703	2211792,		2SA992-F,
	2211793,		2SA992-E,
	2215885 or		KTA1268-GR or
	2215886		KTA1268-BL
Q6704	2212125,		2SA1048-GR,
	2213354,		2SA933S-R,
	2215995 or		KTA1267-GR or
	2213355		2SA933S-S
	Diodes		
D6000-D6004	223163,		1SS133,
D6600-D6602	223205 or		1SS270A or
D6701,D6702	223222		WG713A
D6703,D6704	224470512		MTZJ5.1B
D6705,D6706	22380260,		RL1N4003
D6901,D6902	22380032 or		1SR139-100
	22380035		GP104003E
D6903,D6904	22380273		RS804M
D6906	223163,		1SS133,
	223205 or		1SS270A or
	223222		WG713A
	Capacitors		
C6020-C6024	354784709		47 μF,50 V,Elect.
C6030-C6034	374724734		0.047 μF+/-5 %,50 V,Plastic
C6701,C6706	354721019		100 μF,6.3 V,Elect.
C6704	354780109		1 μF,50 V,Elect.
C6708	374722234		0.022 μF+/-5 %,50 V,Plastic
C6901,C6902	3504374		15000 μF,71 V,Elect.
C6903	374722234		0.022 μF+/-5 %,50 V,Plastic
C6904-C6907	374793344		0.33 μF+/-5 %,63 V,Plastic
	Resistors		
R6040-R6044	5210258		N06HR1KBC,Trimming
R6070-R6074	443521814		180ohm+/-5 %,1/2 W,Metal oxide
R6080-R6084	453530224		2.2ohm+/-5 %,1/2 W,Metal
R6090-R6094	453530224		2.2ohm+/-5 %,1/2 W,Metal
R6100-R6104	4000201		RF-5EGKR22,Metal plate
R6100-R6104	4000132		RGC55 0.22,Metal plate
R6100-R6104	4500245		BPR55FK0.22,Metal plate
R6130-R6134	453630824		8.2ohm+/-5 %,1/2 W,Metal
R6850,R6851	443523914		390ohm+/-5 %,1/2 W,Metal oxide
R6904-R6906	453532294		0.22ohm+/-5 %,1/2 W,Metal
	Relays		
RL6600-RL6602	25065563,		NRL-2P5A-DC24-129,
	25065517 or		NRL-2P5A-DC24-098 or
	25065586		NRL-2P5A-DC24-142
RL6604	25065574		NRL-1P5A-DC24-134
RL6901,RL6902	25065584,		NRL-1P10A-DC12-140,
	25065516 or		NRL-1P10A-DC12-097 or
	25065588		NRL-1P10A-DC12-143
	Switch		
S6901	25065581		NSS-22203
	Fuseholders		
F6901A,F6901B	25052133	⚠	NSCT-1P2031
F6902A,F6902B	25052133	⚠	NSCT-1P2031
	Label		
F6901C	29362241		10A/125V,Fuse
	Terminals		
P6801	25045585		NPJ-6PDBRW396
P901D	2009990650UL		NSAS-4P0905
	Sockets		
JL6803A,JL6804A	25051109		NSCT-5P896
JL6951A,JL6952A	25051109		NSCT-5P896

CIRCUIT NO.	PART NO.	DESCRIPTION
	Plugs	
P6000-P6004	25056009	NPLG-4P0959
P6011	25056017	NPLG-12P0967
P6080-P6084	25055038	NPLG-2P29
P6805	25055678	NPLG-8P634
P6931	25055805	NPLG-16P761
P901B	25055960	NPLG-2P913
P931	25055701	NPLG-5P657
	Heatsink	
D6903B	27160483	RAD-152
	Screws	
D6903A,D6904A	838430107	3TTB+10S(BC), Self-tapping

REGULATOR CIRCUIT PC BOARD (NAPS-7078-1C>

CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q9501	2211455 or	2SA1015-GR or
	2215975	KTA1266-GR
	Diodes	
D9501	22380022 or	RBV402 or
	22380285	RS403M
D9502-D9507	22380260,	RL1N4003,
	22380032 or	1SR139-100 or
	22380035	GP104003E
D9508	224473304	MTZJ33D
	Capacitors	
C9501-C9503	374721044	0.1 μF+/-5 %,50 V,Plasti
C9505	354762229	2200 μF,35 V,Elect.
C9506	354761029S	1000 μF,35 V,Elect.
C9507	354762219	220 μF,35 V,Elect.
C9508	354744729S	4700 μF,16 V,Elect.
C9510	354772219	220 μF,63 V,Elect.
	Resistors	
R6907	453532294	0.22ohm+/-5 %,1/2 W,Metal
R9501,R9502	453530104	1ohm+/-5 %,1/2 W,Metal
R9506	443522204	22ohm+/-5 %,1/2 W,Metal oxide
R9521	453530224	2.2ohm+/-5 %,1/2 W,Metal
	Fuseholders	
F9501A,F9501B	25052133	NSCT-1P2031
	Sockets	
JL6951B,JL6952B	25051109	NSCT-5P896
JL9501A	25051095	NSCT-11P882

CONSTANT VOLTAGE PC BOARD (NAPS-7079-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q6402	222780155JRC	NJM78M15FA
Q6403	222790155JRC	NJM79M15FA
Q6405	222780054JRC	NJM7805FA
Q6406	222780055JRC	NJM78M05FA
	Capacitors	
C6403-C6406	394561007	10 μF,35 V,Elect.
C6409-C6412	394561007	10 μF,35 V,Elect.
	Resistors	
R6402	443621004	10ohm+/-5 %,1 W,Metal oxide
R6403	443523304	33ohm+/-5 %,1/2 W,Metal oxide
R6407,R6408	452730824	8.2ohm+/-5 %,2 W,Metal
R6410	452730684	6.8ohm+/-5 %,2 W,Metal
	Sockets	
JL6402A	25051088	NSCT-4P875
JL9501B	25051095	NSCT-11P882
P6411A	25051529	NSCT-18P1316
	Plug	
P6401	25055042	NPLG-3P32

THERMAL DETECTOR CIRCUIT PC BOARD (NAETC-7081-1C>

CIRCUIT NO.	PART NO.	DESCRIPTION
R5380	4000151	PTH9M04BD222TS2F333,Thermister
R5381	4000149	PTH9M04BB222TS2F333,Thermister
JL6402B	25051088	NSCT-4P875,Socket

DISPLAY CIRCUIT PC BOARD (NADIS-7084-1E>

CIRCUIT NO.	PART NO.	DESCRIPTION
	FL tube	
Q7001	212216	16-BT-96GNK
	Remote sensor	
U7001	241330	PIC-26043TE2
	IC	
Q7002	22241571R3	MPD780232GC-030-8BT
	Transistors	
Q7003	2213145R2,	2SC2712-GR,
	2213143R2,	2SC2712-O,
	2213144R2,	2SC2712-Y,
	2213146R2,	2SC2712-BL,
	2216173R2,	KTC3875-O.
	2216174R2,	KTC3875-Y.
	2216175R2 or	KTC3875-GR or
	2216176R2	KTC3875-BL
Q7004,Q7006	2216190R2 or	KRC102S or
Q7101-Q7106	2214470R2	RN1402
Q7005	2214540R2 or	RN2403 or
Q7005	2216230R2	KRA103S
	Diodes	
D7001,D7002	223234R2 or	1SS352 or
D7004-D7006	223269R2	1SS355
D7003	224490820R2	UDZ8.2B
D7007	224490510R2	UDZ5.1B
D7008	224490270R2	UDZ2.7B
D7101	225290	SEL4110R
D7102	225291D	SEL4910D-D
D7103-D7106	225291D	SEL4910D-D
	Coil	
L7001	231237M022R2	NCH-1471
	Oscillator	
X7501	3010242	CST5.00MGW
	Capacitors	
C7001	354722219	220 μF,6.3 V,Elect.
C7002,C7502	375524744	0.47 μF+/-5 %,50 V,Plastic
C7007	354784709	47 μF,50 V,Elect.
C7016,C7517	353721019	100 μF,6.3 V,Elect.
C7503	3000120	FMC0H104Z,Super
	Sockets	
P412A	25051896 or	NSCT-14P1683 or
	25052535	NSCT-14P2432
P7002A	25052055 or	NSCT-9P1842 or
	25051853	NSCT-9P1640
P7003A	25051089	NSCT-5P876
P7004A	25051087	NSCT-3P874
	Holder	
Q7001A	27191074	(FL)
	Relay	
RL7001	25065612	NRL-2P1A-DC4.5-157
	Switches	
S7011-S7017	25035652	NPS-111-S604
S7111-S7117	25035652	NPS-111-S604
S7211-S7216	25035652	NPS-111-S604
S7311	25065608	EC11B30C17
S7312-S7317	25035652	NPS-111-S604

VOLUME PC BOARD (NASW-7085-1E>

CIRCUIT NO.	PART NO.	DESCRIPTION
P7004B	25051087	NSCT-3P874,Socket
S7001	25065611	EC16B24C25,Rotary encoder

HEDPHONE TERMINAL PC BOARD (NAETC-7086-1E>

CIRCUIT NO.	PART NO.	DESCRIPTION
P7003B	25051089	NSCT-5P876,Socket
P7005	25045385	YKB26-5153,Headphone terminal

TERMINAL PC BOARD (NAETC-7087-1E>

CIRCUIT NO.	PART NO.	DESCRIPTION
	IC	
Q1005	222780125	78M12HF
	Transistors	
Q1015	2216220R2 or	KRA102S or
	2214530R2	RN2402
Q1501,Q1601	2212855 or	2SB1068-U or
	2212853	2SB1068-K
Q1502,Q1602	2216190R2 or	KRC102S or
	2214470R2	RN1402
	Diode	
D1015	223234R2 or	1SS352 or
	223269R2	1SS355
	Capacitors	
C1012,C1016	354780339	3.3 μF,50 V,Elect.
C1014	354741009	10 μF,16 V,Elect.
C1015	354782299	0.22 μF,50 V,Elect.
	Thermistors	
R1507,R1607	4000195	RXE030
	Sockets	
P1001A	25052248,	NSCT-15P2145,
	25051859 or	NSCT-15P1646 or
	25052061	NSCT-15P1848
P403A	25051233	NSCT-8P1023
P409A,P702A	25051529	NSCT-18P1316
	Plugs	
P205A	25055712	NPLG-20P668
P311A	25055805	NPLG-16P761

TONE CONTROL CIRCUIT PC BOARD (NAAF-7088-1E>

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q3501,Q3502	22241383R2 or	NJM4565M-D or
	22240489R1NE	MPC4570G2-T1(MST)
	Capacitors	
C3501,C3502	354744709	47 μF,16 V,Elect.
C3505-C3508	354744709	47 μF,16 V,Elect.
C3509,C3510	374721534	0.015 μF+/-5 %,50 V,Plastic
C3511,C3512	354744709	47 μF,16 V,Elect.
C3513,C3514	374721534	0.015 μF+/-5 %,50 V,Plastic
C3515,C3516	354744709	47 μF,16 V,Elect.
	Resistors	
R3509,R3510	5104356	N14RLC100KWT20Z,Variable
	Socket	
JL351A	25051093	NSCT-9P880

S VIDEO TERMINAL PC BOARD (NAVD-7090-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q212,Q213	22240373	BA7625
Q224	22241221R2	TC9164AF
	Transistors	
Q201	2216031R2 or	RN1444-A or
Q202-Q204	2216032R2	RN1444-B
Q205-Q210	2214375R2 or	2SA1162-GR or
Q215	2216185R2	KTA1504-GR
Q216-Q219	2216031R2 or	RN1444-A or

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CAUTION: Replacement for transistor of mark * , if necessary must be made from the same beta group (HFE) as the original type.

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q222,Q223	2216032R2	RN1444-B
Q220	2214530R2 or	RN2402 or
	2216220R2	KRA102S
	Diodes	
D201-D204	223234R2 or	1SS352 or
D201-D204	223269R2	1SS355
	Coils	
L201,L203	231237K022R2	NCH-1471
L202,L204	231292J056R2	NCH-1572
	Capacitors	
C206,C208	354780229	2.2 μF,50 V,Elect.
C209,C215	354780229	2.2 μF,50 V,Elect.
C211,C213	354724719	470 μF,6.3 V,Elect.
C217,C221	354780229	2.2 μF,50 V,Elect.
C219	354724719	470 μF,6.3 V,Elect.
C222	354784799	0.47 μF,50 V,Elect.
C225-C227	354724719	470 μF,6.3 V,Elect.
	Terminal	
P204	25045504	NPJ-1PDBL319
	Sockets	
P201	25051956	NSCT-8P1743
P202,P203	25051957	NSCT-12P1744
P205B	25051241	NSCT-20P1031
P206B	25051834	NSCT-27P1621
	Plug	
JL204B	25055627	NPLG-6P589

COMPOSITE VIDEO PC BOARD (NAVD-7091-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q2001	22240373	BA7625
Q2004	22241579	NJM2267D
Q2005	22241037	LC74761-9189
	Transistors	
Q2002,Q2003	2216031R2 or	RN1444-A or
Q2013-Q2015	2216032R2	RN1444-B
Q2006-Q2008	2214375R2 or	2SA1162-GR or
Q2010,Q2012	2216185R2	KTA1504-GR
Q2016	2213145R2 or	2SC2712-GR or
	2216175R2	KTC3875-GR
Q2017,Q2018	2216031R2 or	RN1444-A or
	2216032R2	RN1444-B
	Diodes	
D2001-D2003	223234R2 or	1SS352 or
	223269R2	1SS355
	Coils	
L2001	231237K022R2	NCH-1471
L2002	231292J056R2	NCH-1572
	Capacitors	
C2001	354724719	470 μF,6.3 V,Elect.
C2010-C2012	354724719	470 μF,6.3 V,Elect.
C2013,C2029	354780109	1 μF,50 V,Elect.
C2016,c2018	354721019	100 μF,6.3 V,Elect.
C2020,C2055	354744709	47 μF,16 V,Elect.
C2021,C2025	375524744	0.47 μF+/-5 %,50 V,Plastic
C2022,C2042	354721019	100 μF,6.3 V,Elect.
C2023	354783399	0.33 μF,50 V,Elect.
C2027	374721224	1200 pF+/-5 %,50 V,Plastic
C2028,C2033	354780229	2.2 μF,50 V,Elect.
C2032	374726824	6800 pF+/-5 %,50 V,Plastic
C2034,C2036	354724719	470 μF,6.3 V,Elect.
C2035	354780229	2.2 μF,50 V,Elect.
C2037,C2038	354780229	2.2 μF,50 V,Elect.
C2039	354724719	470 μF,6.3 V,Elect.
C2040	354784799	0.47 μF,50 V,Elect.
C2041	374722234	0.022 μF+/-5 %,50 V,Plastic
C2045	354780109	1 μF,50 V,Elect.
C2046,C2047	354724719	470 μF,6.3 V,Elect.
P2001	25045319	NPJ-2PDYE176
P2002,P2003	25045363	NPJ-3PDYE208
P2004	25045504	NPJ-1PDBL319
	Socket	
P206A	25051834	NSCT-27P1621
	Oscillator	
X2001	3010167 or	XTL-14.32M or
	3010347	HQS-HC49U-14318-11

COMPONENT VIDEO TERMINAL PC BOARD (NAVD-7092-1C)

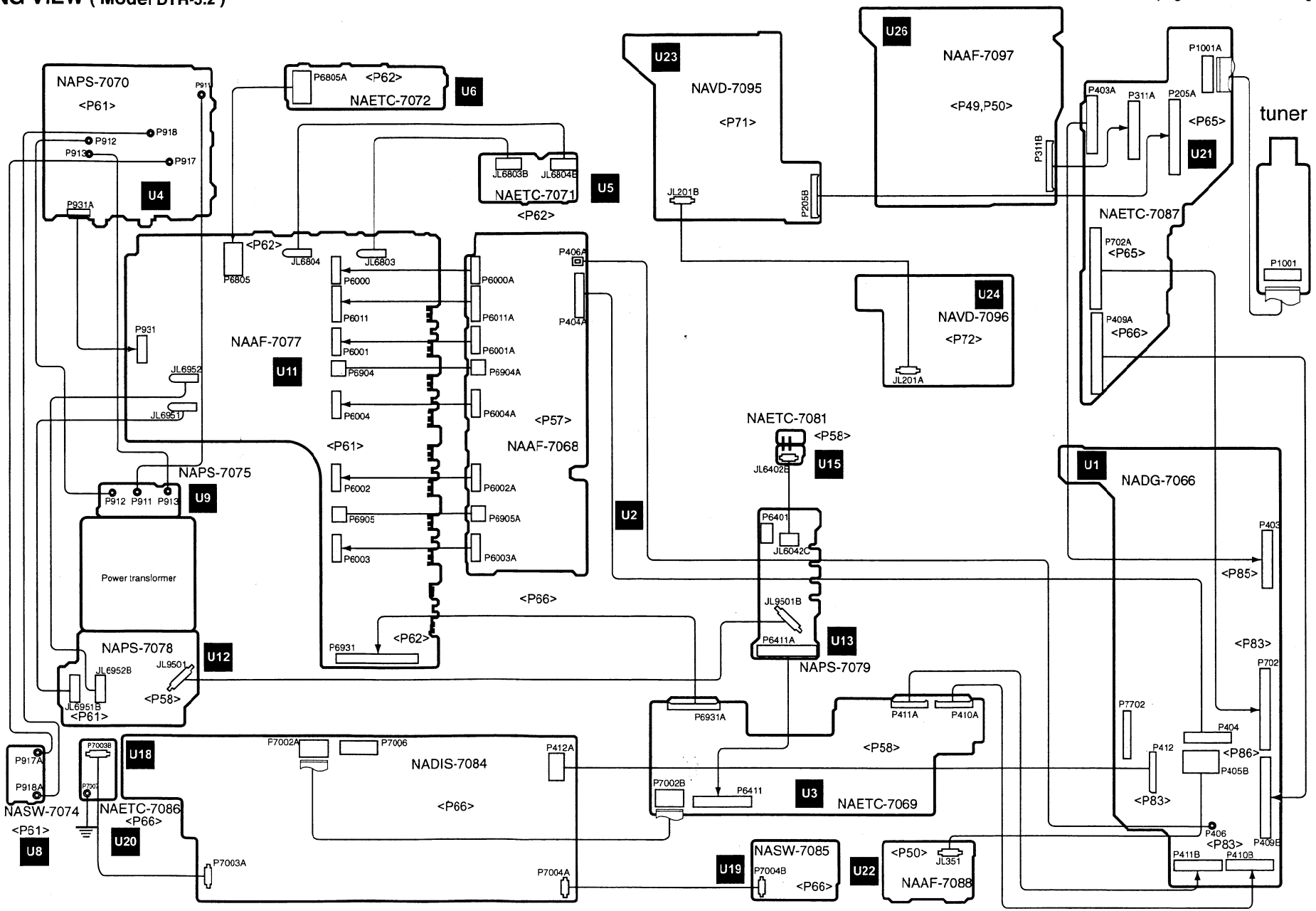
CIRCUIT NO.	PART NO.	DESCRIPTION
	Transistor	
Q2101	2214460R2 or	RN1401 or
Q2101	2216330R2	KRC101S
	Diodes	
D2101,D2102	223234R2 or	1SS352 or
	223269R2	1SS355
	Capacitor	
C2113	354780109	1 μF,50 V,Elect.
	Terminals	
P2101-P2103	25045607	NPJ-3PDGLR414
P2104	25045504	NPJ-1PDBL319
	Relays	
RL2101,RL2102	25065610	NRL-2P1A-DC4.5-156
	Socket	
JL204A	25051090	NSCT-6P877

INPUT TERMINAL PC BOARD (NAAF-7093-1C)

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q301,Q361	22241383R2 or	NJM4565M-D or
Q371	22240489R1NE	MPC4570G2-T1(MST)
Q311	22241221R2	TC9164AF
Q312	22240829	TC9274N-008
	Transistors	
Q373,Q374	2215410R2	RN1441
	Capacitors	
C303,C304	354741009	10 μF,16 V,Elect.
C307,C308	354721019	100 μF,6.3 V,Elect.
C309,C310	374726824	6800 pF+/-5 %,50 V,Plastic
C311,C312	374721824	1800 pF+/-5 %,50 V,Plastic
C313,C314	354741009	10 μF,16 V,Elect.
C351	354744719	470 μF,16 V,Elect.
C352	354741029S	1000 μF,16 V,Elect.
C355,C356	354744709	47 μF,16 V,Elect.
C361,C362	393384707	47 μF,50 V,Elect.
C371,C372	393380227	2.2 μF,50 V,Elect.
C373,C374	393384707	47 μF,50 V,Elect.
C377,C378	374721024	1000 pF+/-5 %,50 V,Plastic
	Terminals	
P301-P304	25045583 or	NPJ-6PDRW394 or
	25045565	NPJ-6PDBL380
	Socket	
P311B	25051527	NSCT-16P1314

WIRING VIEW (Model DTR-5.2)

The bracket < > shows the page of schematic diagram.



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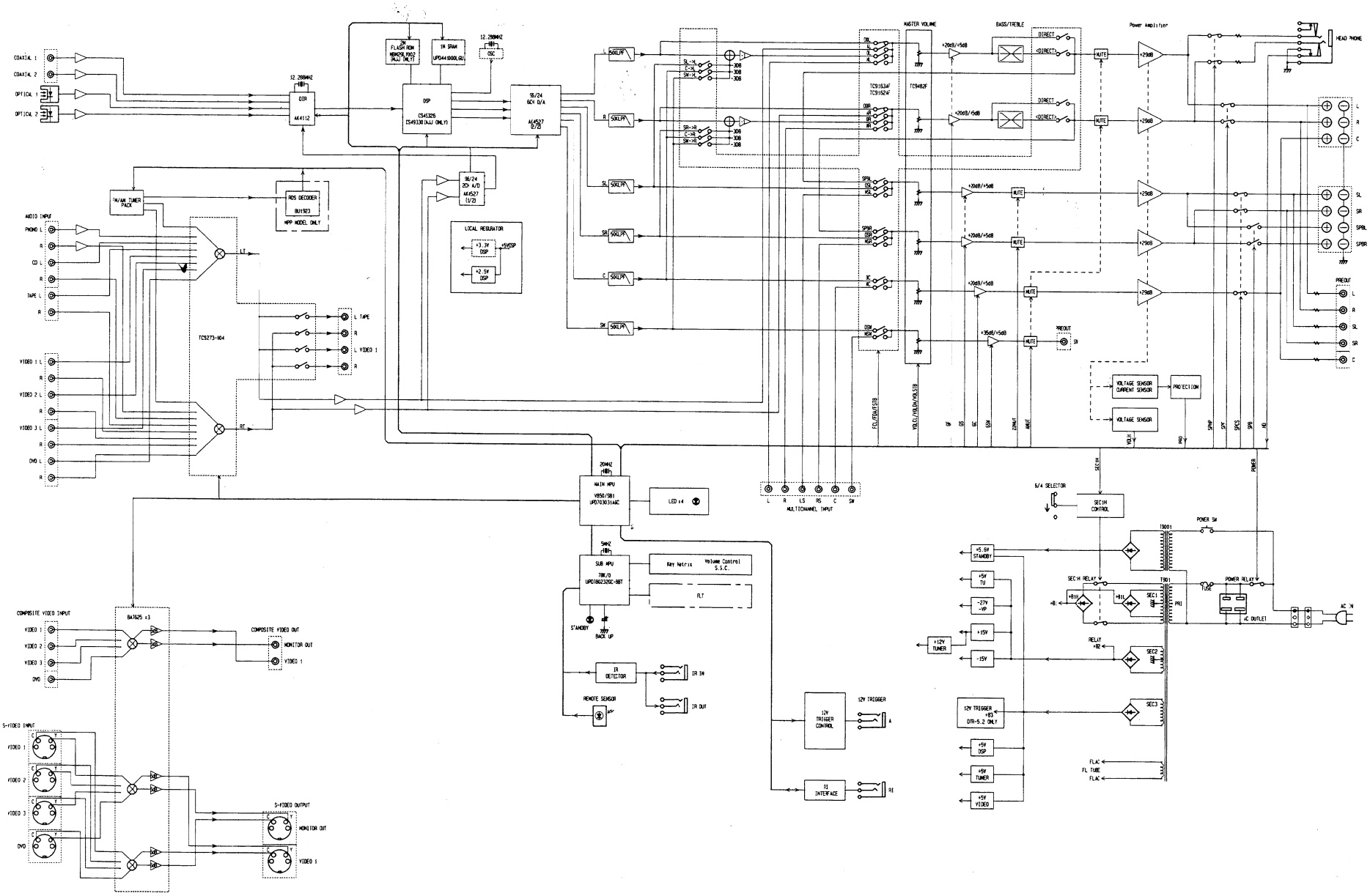
BLOCK DIAGRAM (Model DTR-5.2)



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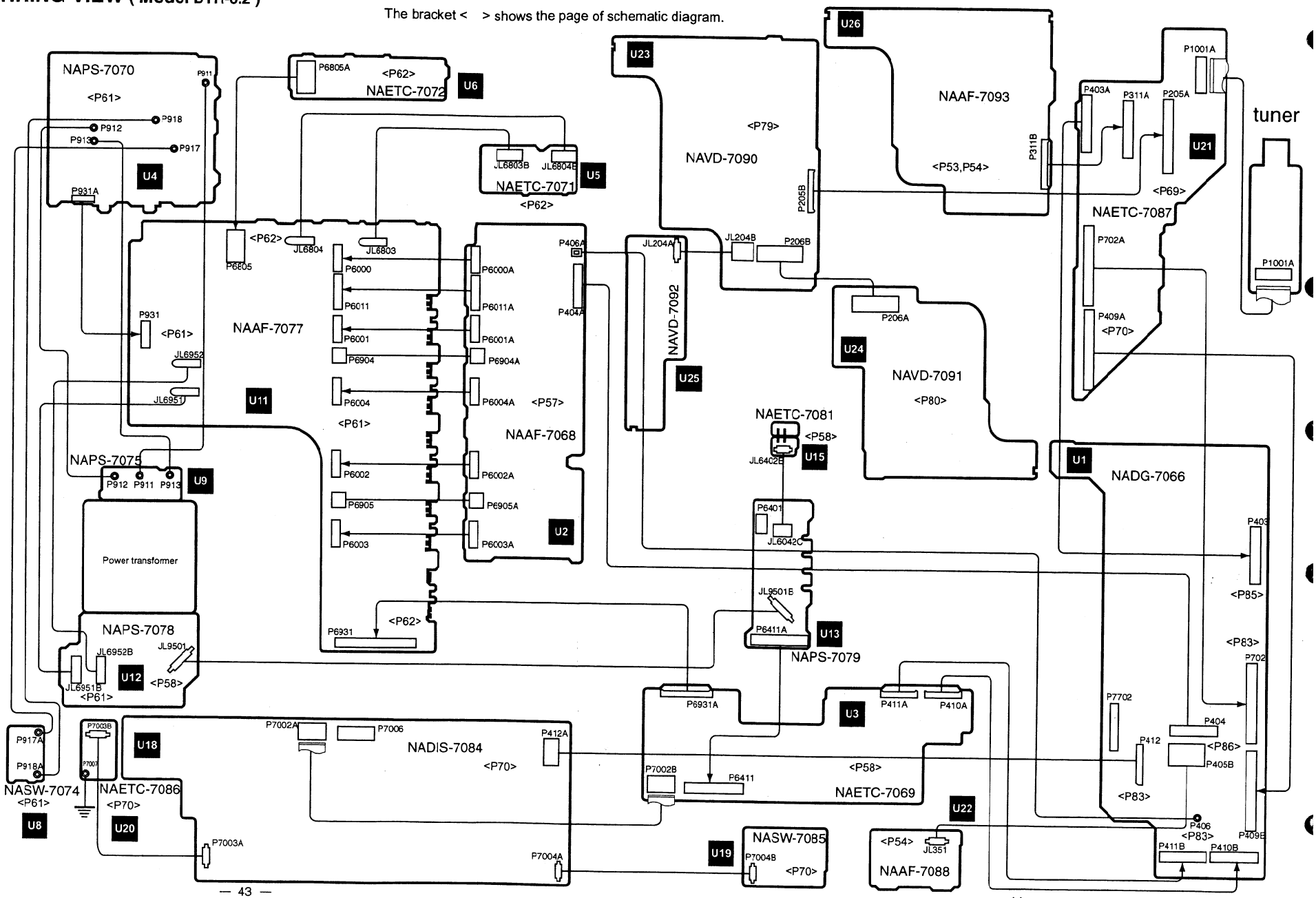
WIRING VIEW (Model DTR-6.2)

The bracket < > shows the page of schematic diagram.



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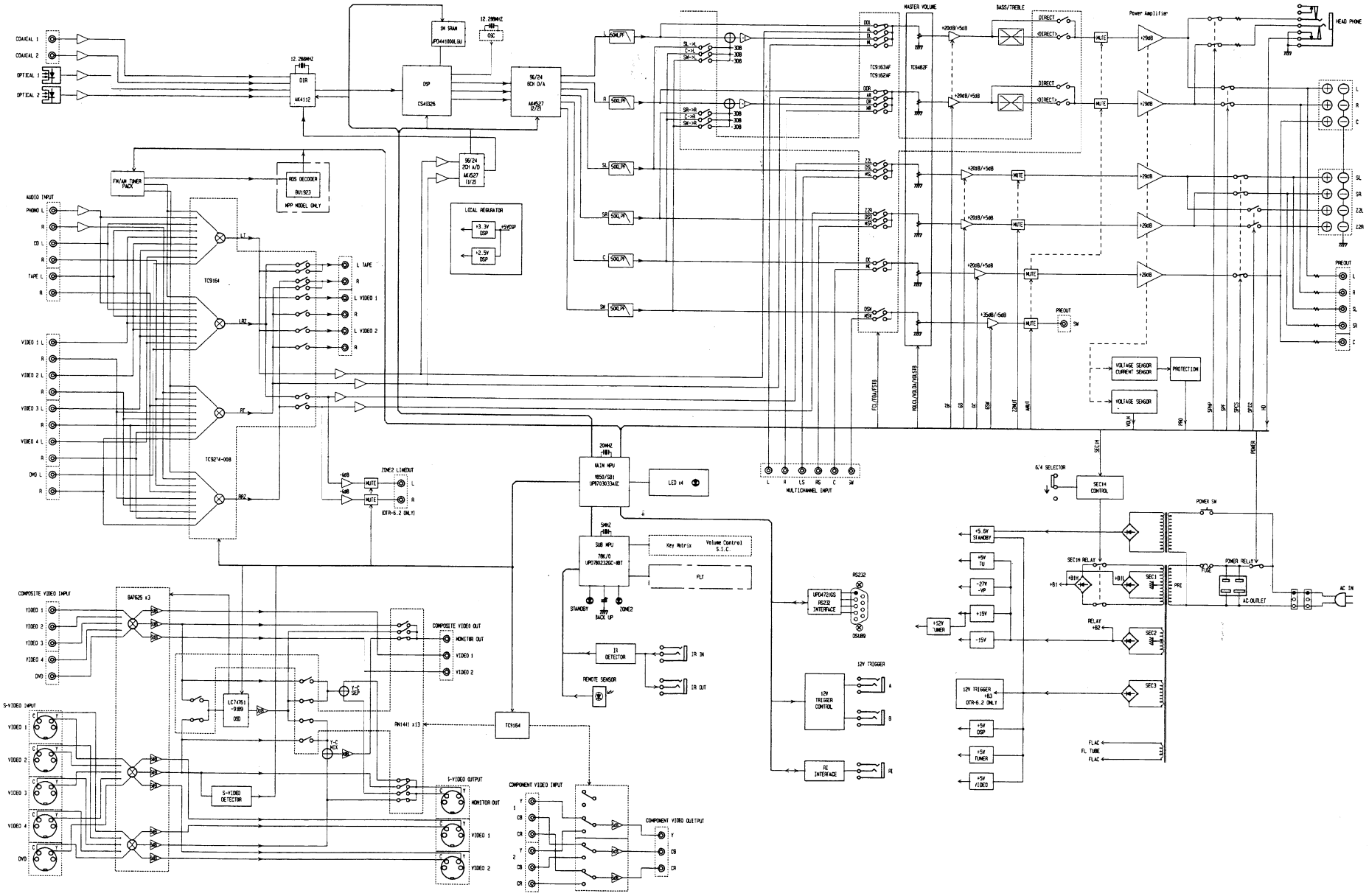
BLOCK DIAGRAM (Model DTR-6.2)



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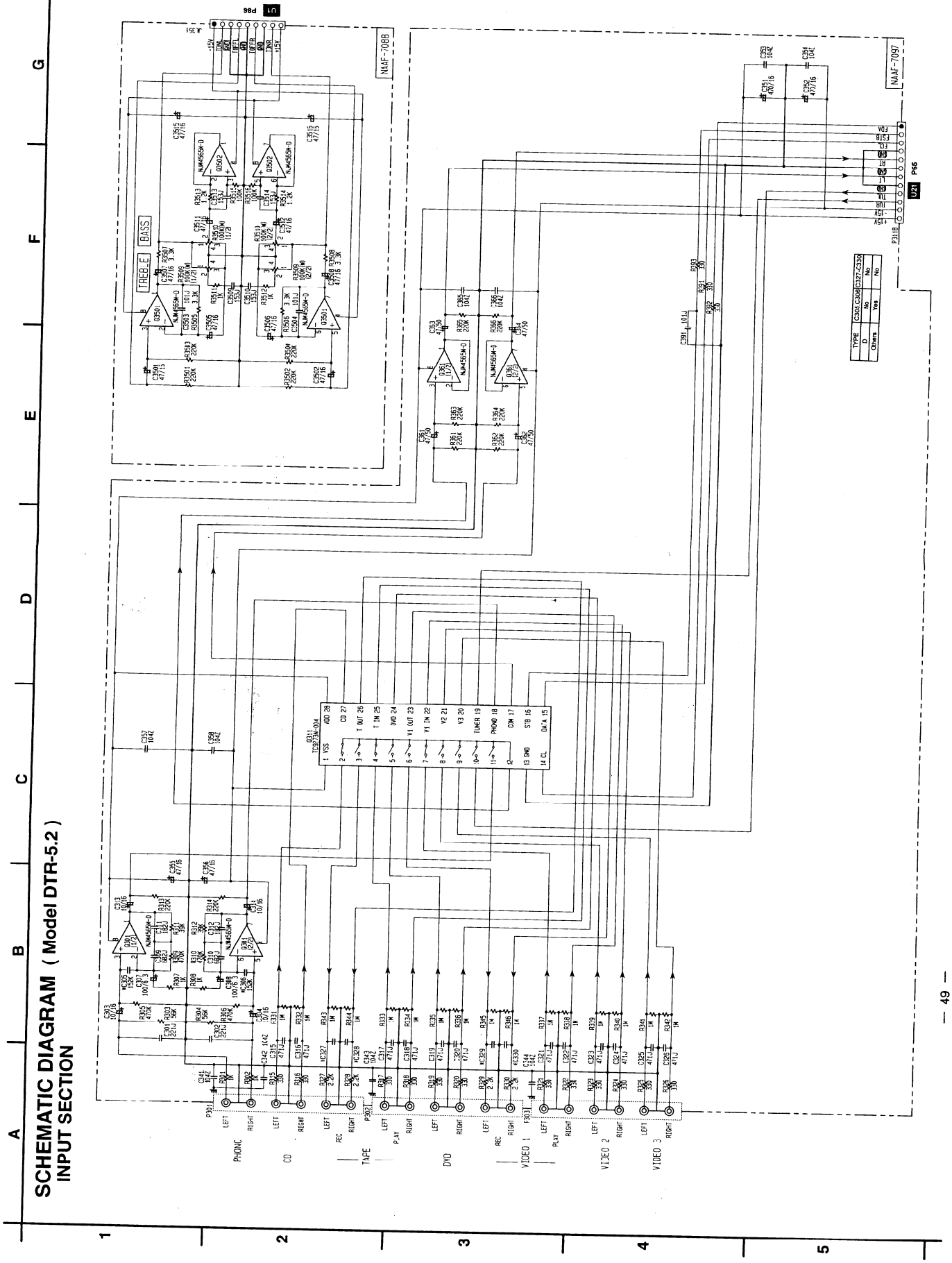
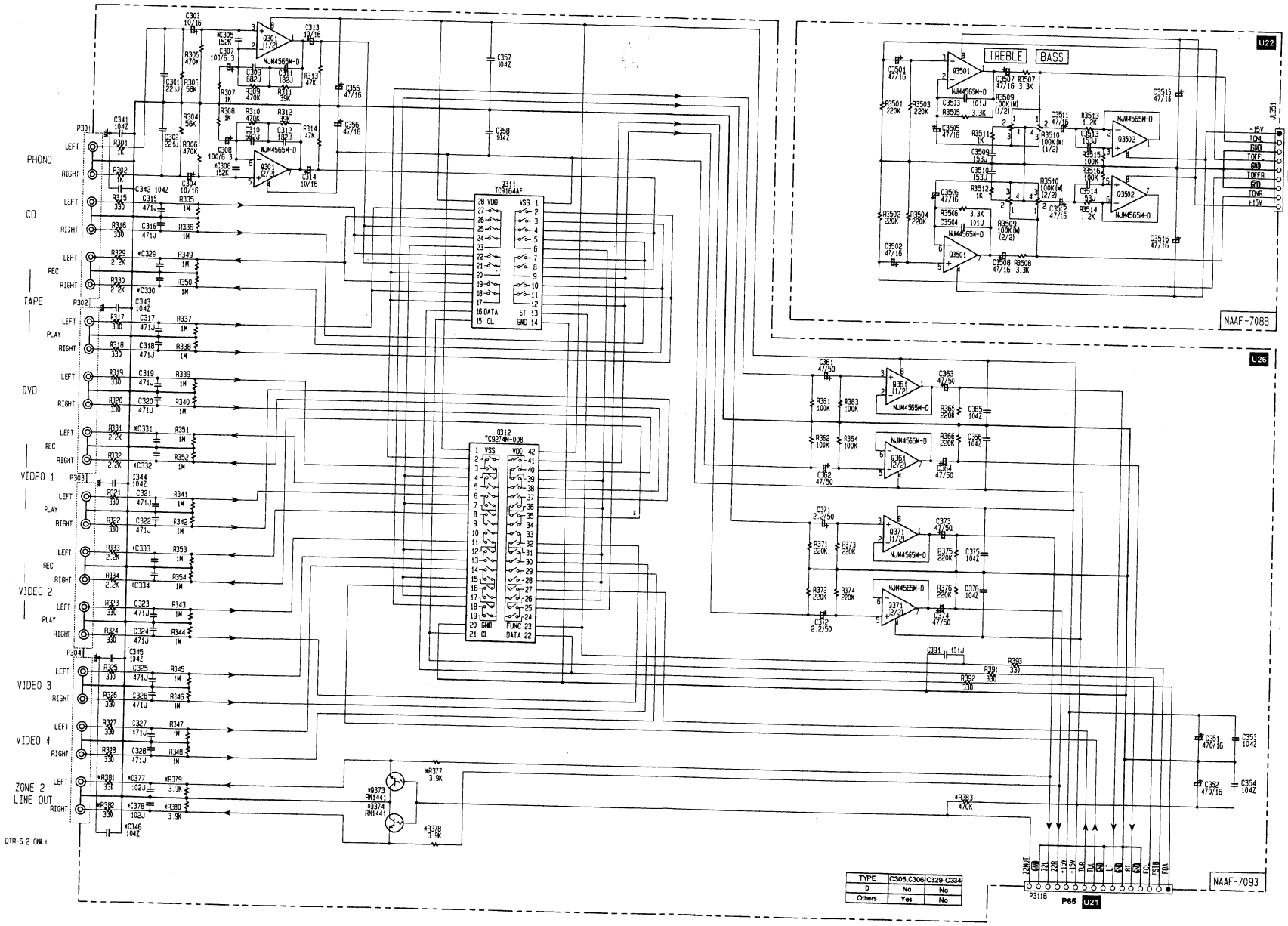
SCHEMATIC DIAGRAM (Model DTR-5.2)
INPUT SECTION



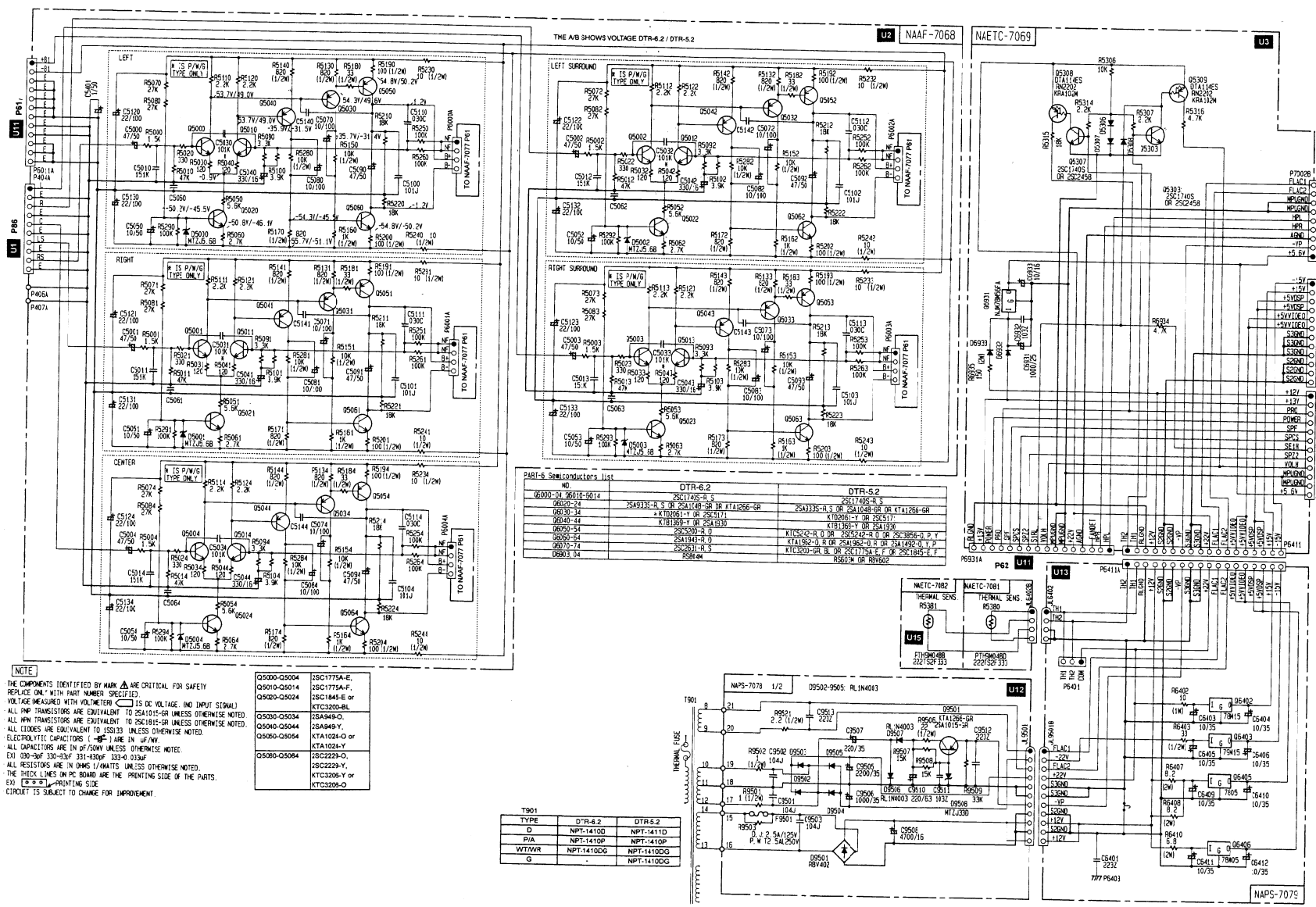
SCHEMATIC DIAGRAM (Model DTR-6.2)

INPUT SECTION



SCHEMATIC DIAGRAM (Model DTR-5.2 / DTR-6.2)

POWER AMPLIFIER SECTION 1



NOTE

THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
VOLTAGE MEASURED WITH VOLTMETER( ) IS DC VOLTAGE. (NO INPUT SIGNAL)
ALL PNP TRANSISTORS ARE EQUIVALENT TO 2SA1015-GR UNLESS OTHERWISE NOTED.
ALL NPN TRANSISTORS ARE EQUIVALENT TO 2SC1815-GR UNLESS OTHERWISE NOTED.
ALL DIODES ARE EQUIVALENT TO 1SS133 UNLESS OTHERWISE NOTED.
ELECTROLYTIC CAPACITORS ( ) ARE IN uF/WV.
ALL CAPACITORS ARE IN pF/50WV UNLESS OTHERWISE NOTED.
EX) 030=30F 330=33nF 331=330pF 333=0.033uF
ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
THE THICK LINES ON PC BOARD ARE THE PRINTING SIDE OF THE PARTS.
EX) [ ] PRINTING SIDE
CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT.

Q5000-Q5004	2SC1775A-E,
Q5010-Q5014	2SC1775A-F,
Q5020-Q5024	2SC1845-E or KTC3200-BL
Q5030-Q5034	2SA949-O,
Q5040-Q5044	2SA949-Y, KTA1024-O or
Q5050-Q5054	KTA1024-Y
Q5060-Q5064	2SC2223-O, 2SC2229-Y, KTC3205-Y or KTC3209-O

PART-6 Semiconductors list

NO.	DTR-6.2	DTR-5.2
Q5000-04,Q6010-5014	2SC1740S-R,S	2SC1740S-R,S
Q6020-24	2SA933S-R,S OR 2SA1048-GR OR KTA1266-GR	2SA933S-R,S OR 2SA1048-GR OR KTA1266-GR
Q6030-34	KTD2061-Y OR 2SC5171	KTD2061-Y OR 2SC5171
Q6040-44	KTB1369-Y OR 2SA1930	KTB1366-Y OR 2SA1930
Q6050-54	2SC5200-R,O	KTC5242-R,O OR 2SC5242-R,O OR 2SC3856-O,P,Y
Q6060-64	2SA1943-R,O	KTA1962-O,R OR 2SA1962-O,Y OR 2SA1492-O,Y,P
Q6070-74	2SC2631-R,S	KTC3200-GR,BL OR 2SC1775A-E,F OR 2SC1845-E,F
D6903.04	RS804M	RS803M OR RBV602

T901

TYPE	DTR-6.2	DTR-5.2
D	NPT-1410D	NPT-1411D
P/A	NPT-1410P	NPT-1410P
WT/WR	NPT-1410DG	NPT-1410DG
G	-	NPT-1410DG

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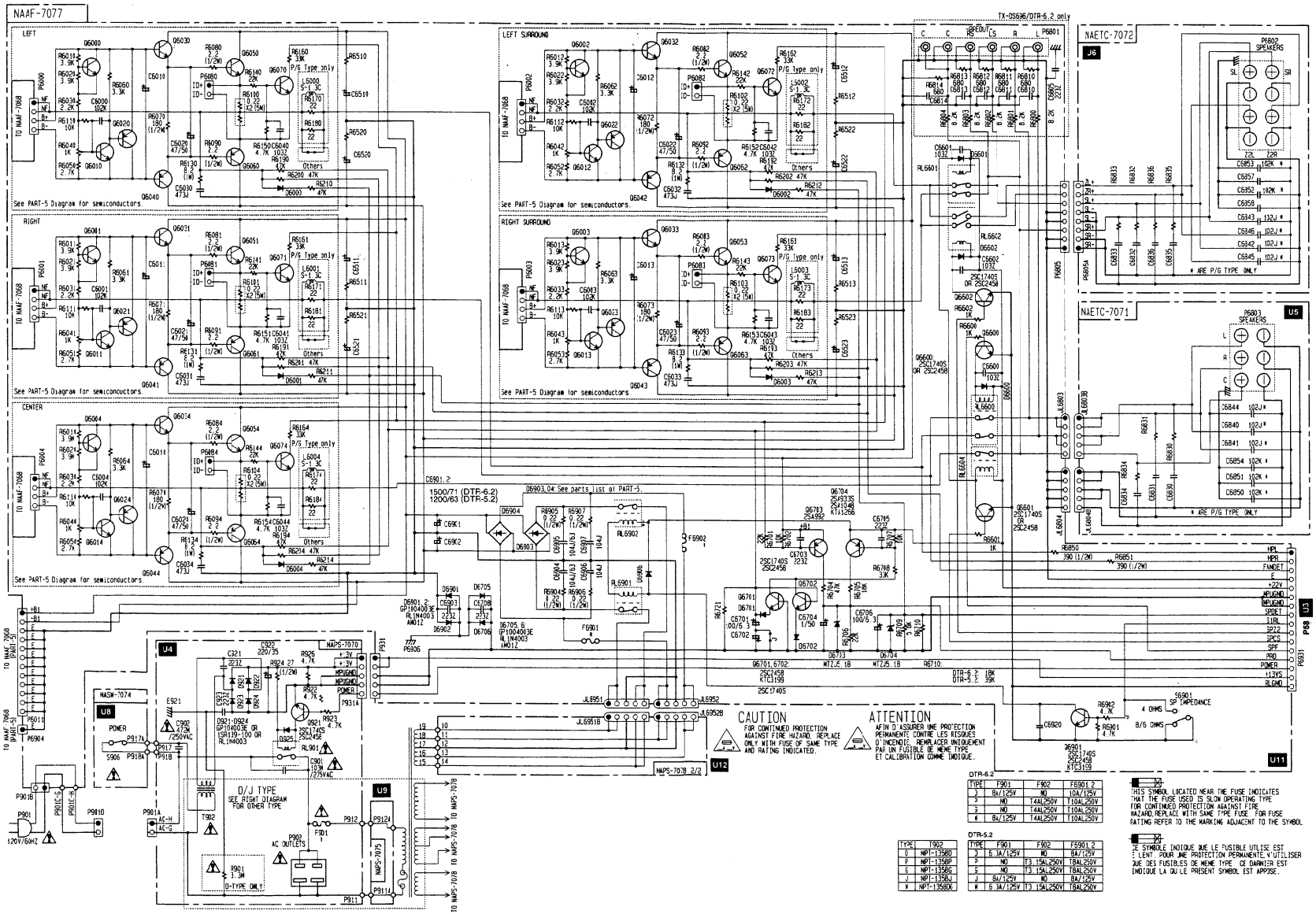
SCHEMATIC DIAGRAM (Model DTR-5.2 / DTR-6.2)

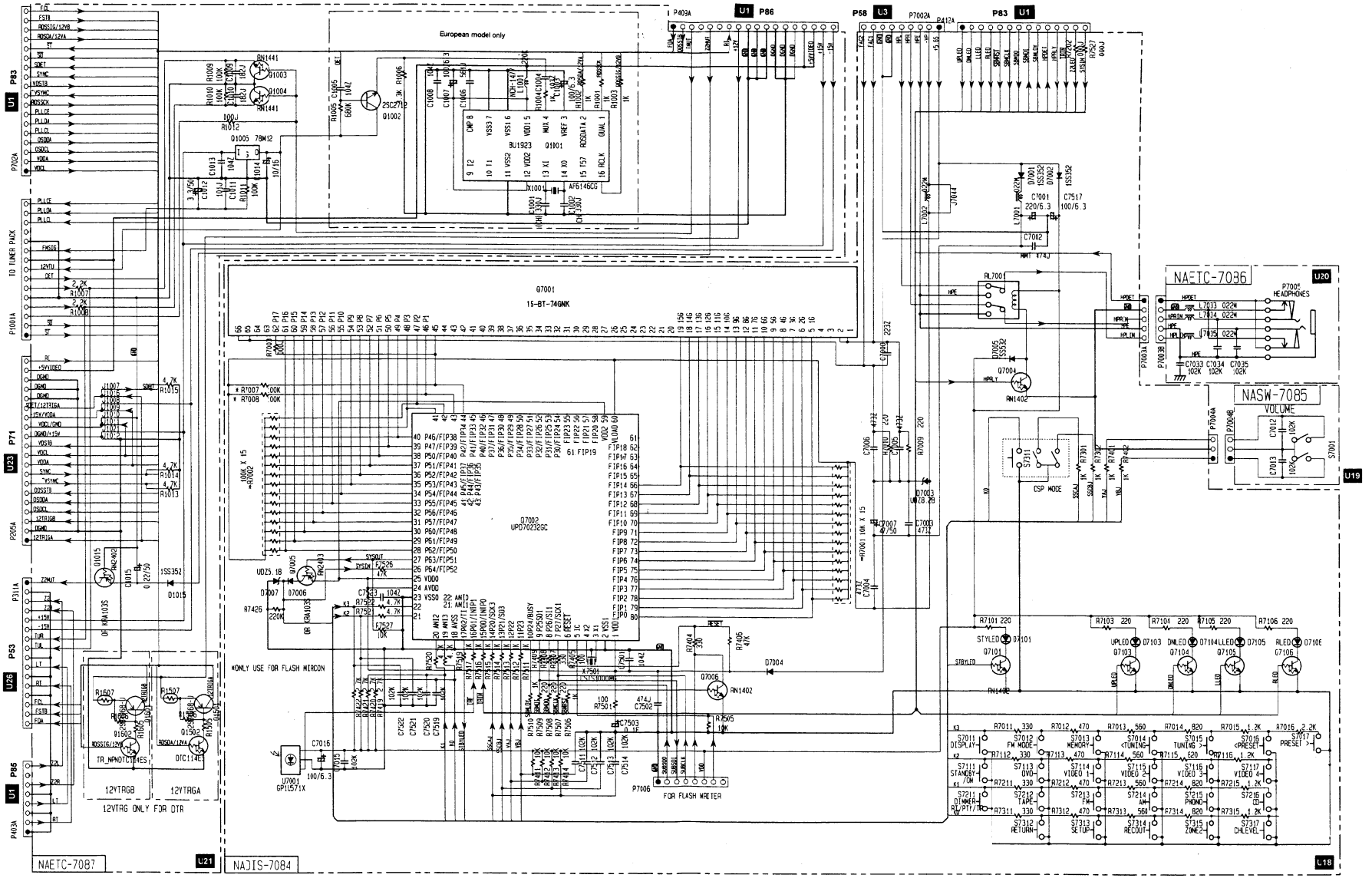
POWER AMPLIFIER SECTION 2


NAAF-7077
LEFT
RIGHT
CENTER
LEFT SURROUND
RIGHT SURROUND
See PART-5 Diagram for semiconductors.
TO NAAF-7068
TX-DS696/DTR-6.2 only
NAETC-7072
NAETC-7071
SPEAKERS
* ARE P/G TYPE ONLY
1500/71 (DTR-6.2)
1200/63 (DTR-5.2)
D6903,04:See parts list of PART-5.
NAPS-7070
NASH-7074
D/J TYPE
SEE RIGHT DIAGRAM FOR OTHER TYPE
AC OUTLETS
D-TYPE ONLY
NAPS-7075
NAPS-7078 2/2
SP IMPEDANCE
4 OHMS
8/6 OHMS
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH FUSE OF SAME TYPE AND RATING INDICATED.
ATTENTION
AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MEME TYPE ET CALIBRATION COMME INDIQUE.
THIS SYMBOL LOCATED NEAR THE FUSE INDICATES THAT THE FUSE USED IS SLOW OPERATING TYPE FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE WITH SAME TYPE FUSE. FOR FUSE RATING REFER TO THE MARKING ADJACENT TO THE SYMBOL.
LE SYMBOLE INDIQUE QUE LE FUSIBLE UTILISE EST LENT. POUR UNE PROTECTION PERMANENTE, N'UTILISER QUE DES FUSIBLES DE MEME TYPE. CE MARQUER EST INDIQUE LA OU LE PRESENT SYMBOL EST APPOSE.
DTR-6.2
DTR-5.2
120V/60HZ

98.max

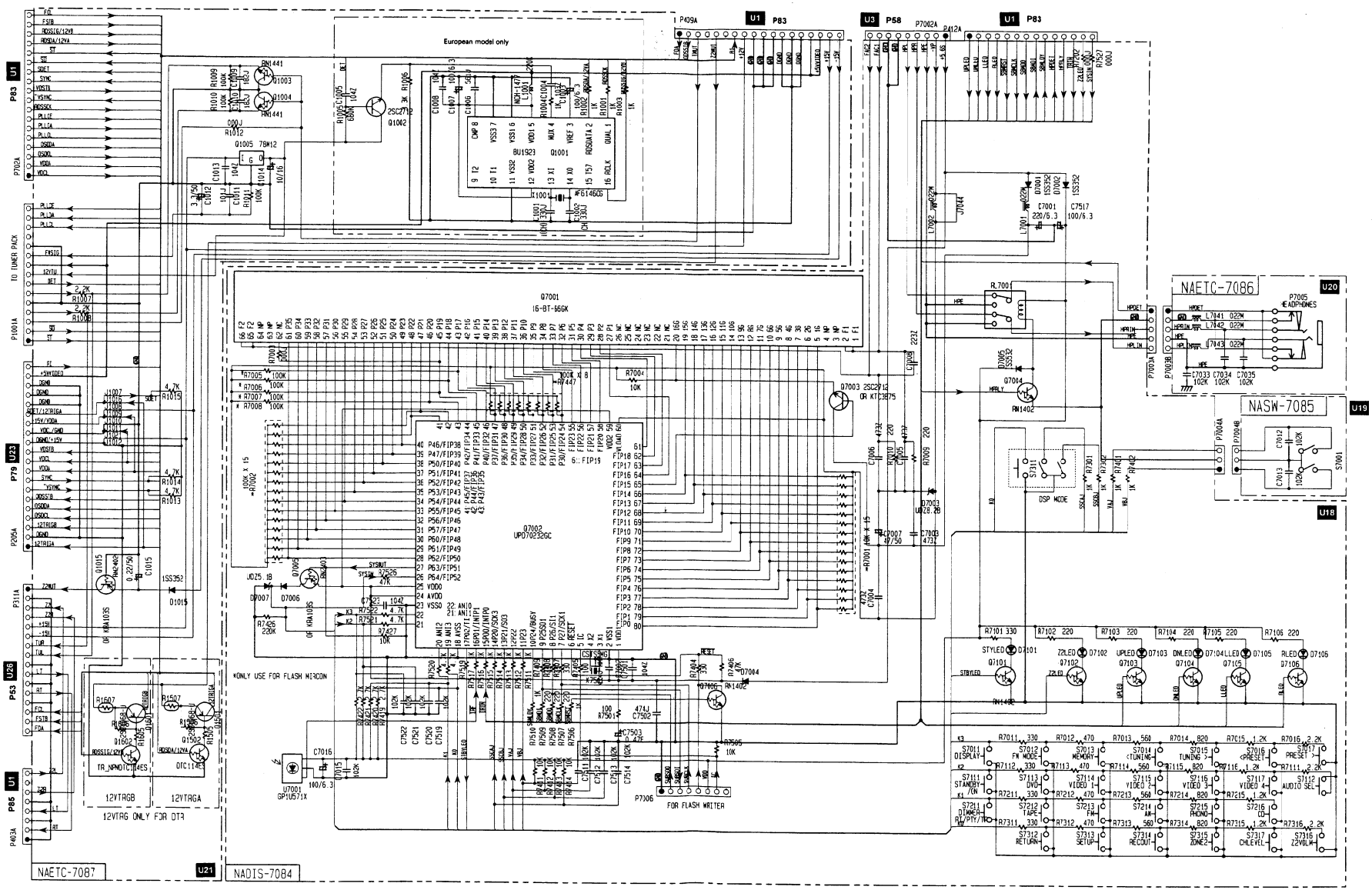
SCHEMATIC DIAGRAM (Model DTR-5.2)

DISPLAY SECTION



SCHEMATIC DIAGRAM (Model DTR-6.2)

DISPLAY SECTION



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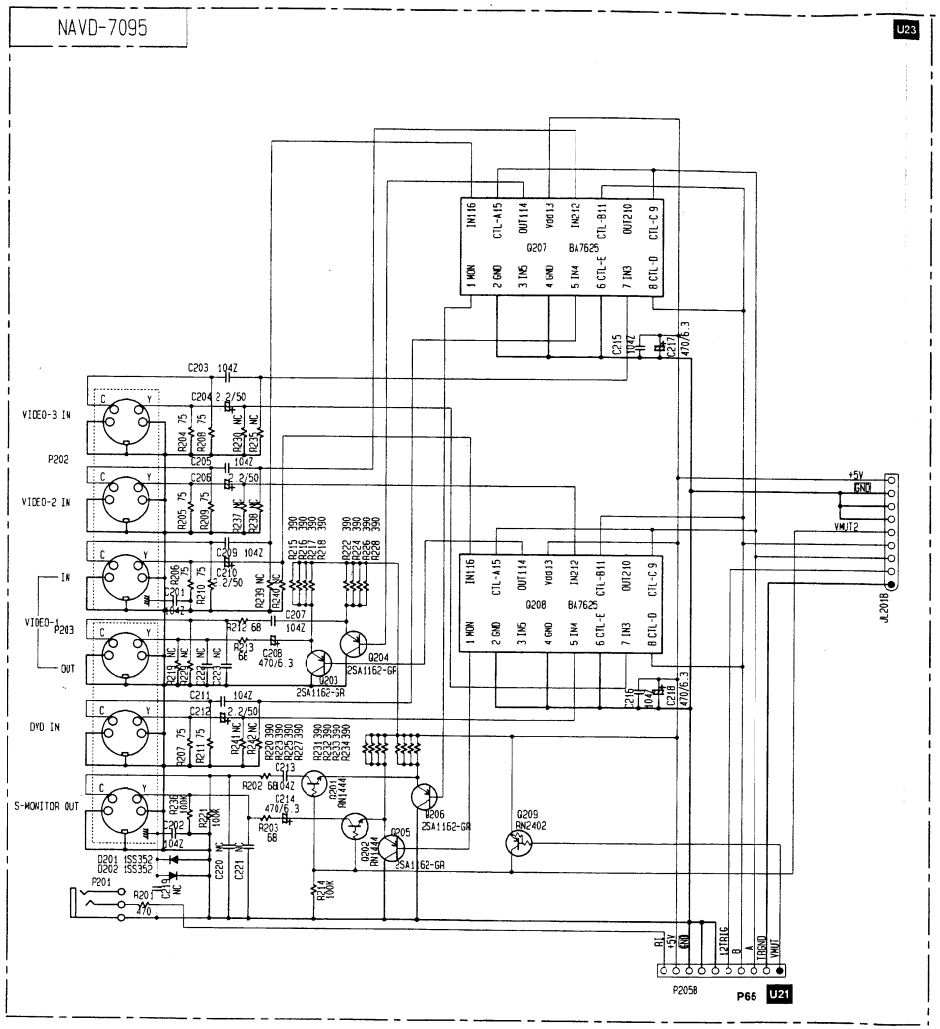
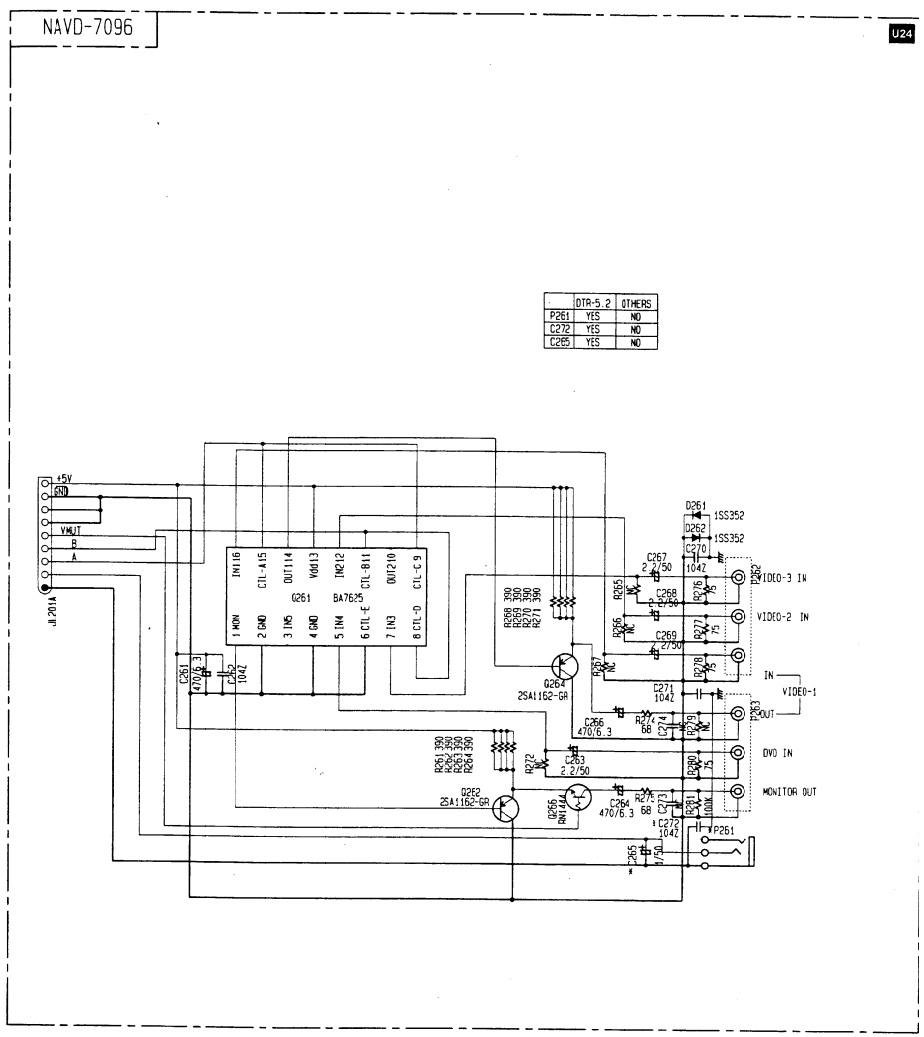
SCHEMATIC DIAGRAM (Model DTR-5.2)

VIDEO SECTION





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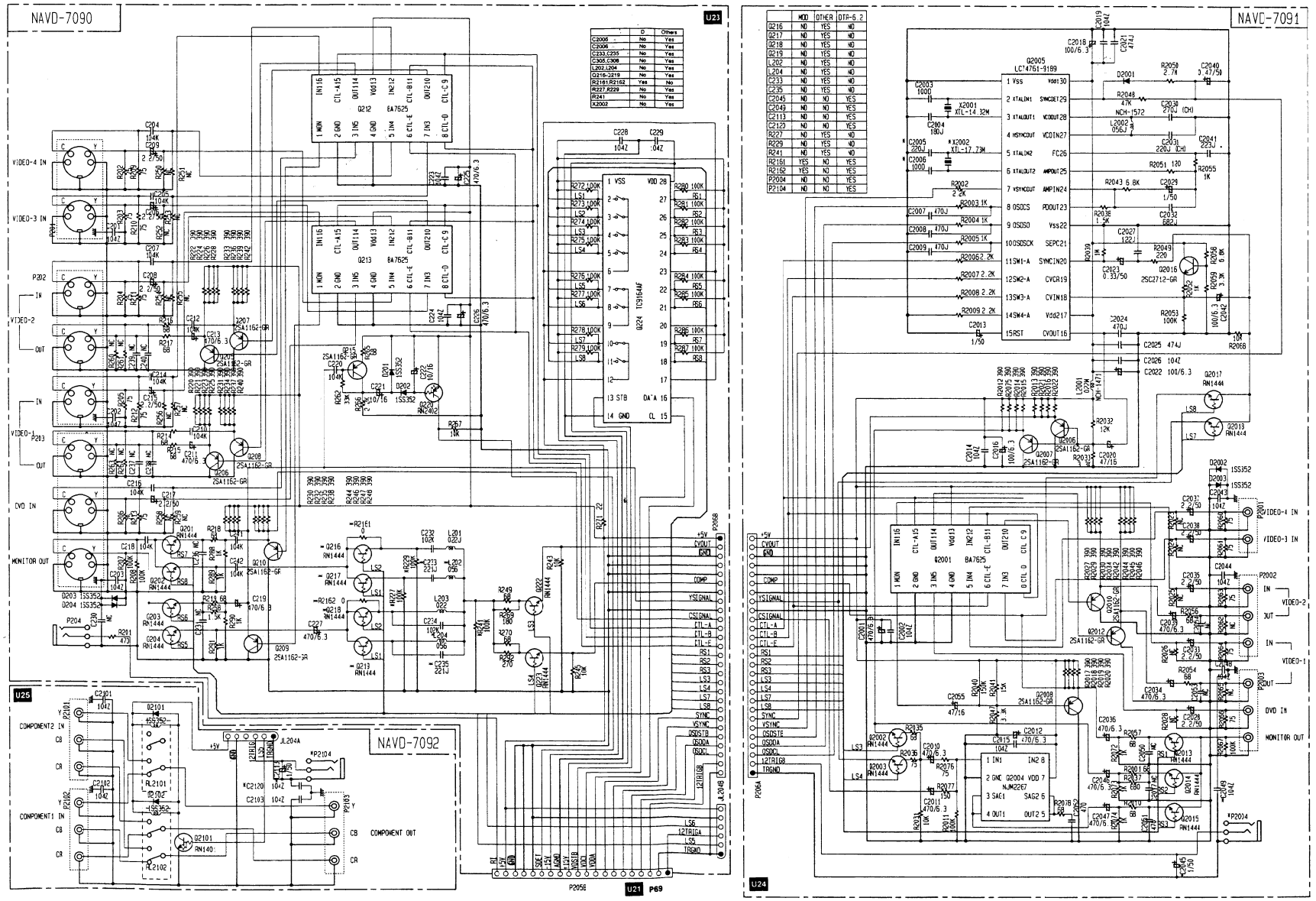
A B C D E F G H

SCHEMATIC DIAGRAM (Model DTR-6.2)

VIDEO SECTION

1 2 3 4 5



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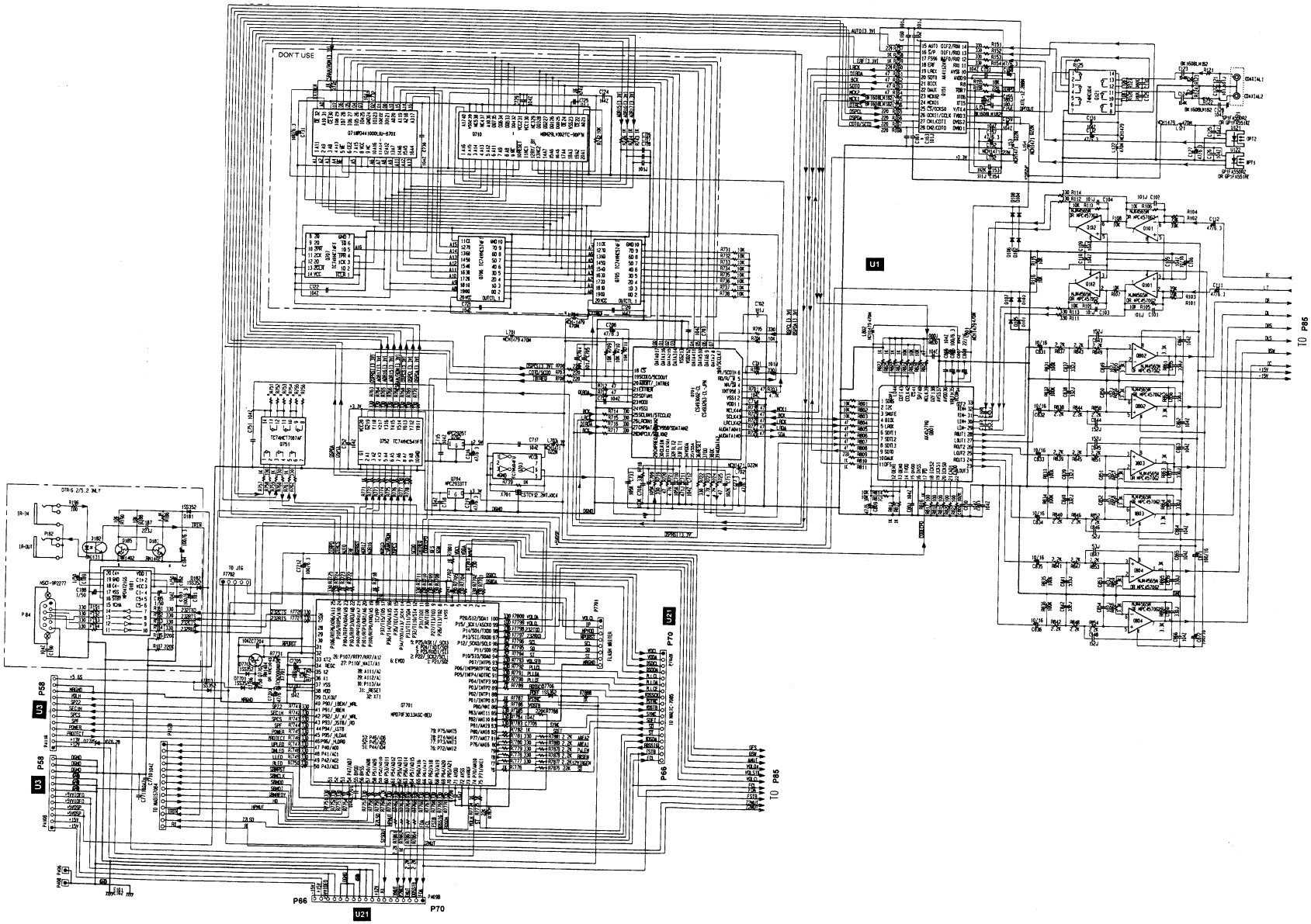
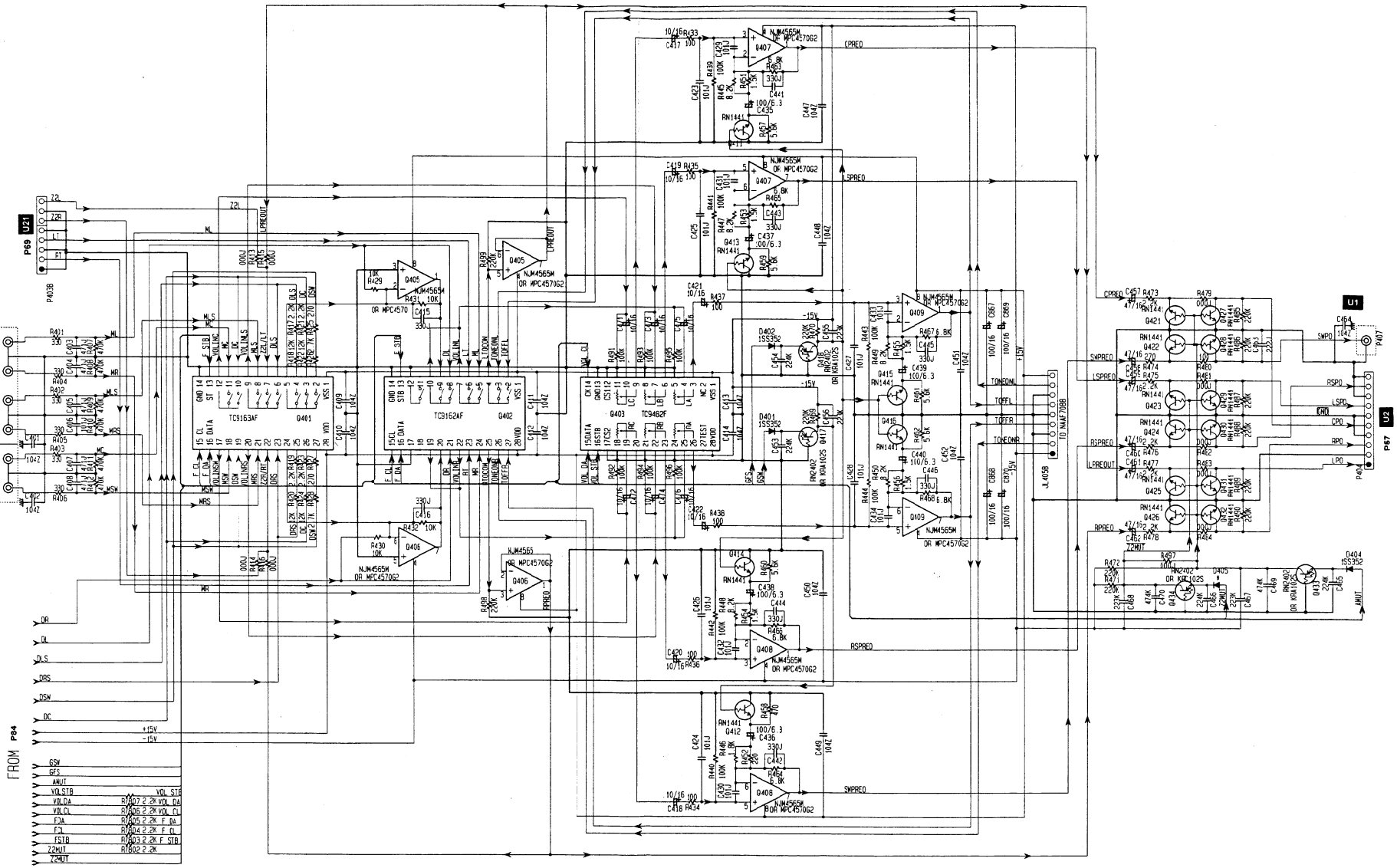
SCHEMATIC DIAGRAM (Model DTR-5.2 / DTR-6.2)

DSP SECTION 1



SCHEMATIC DIAGRAM (Model DTR-5.2 / DTR-6.2)

DSP SECTION 2



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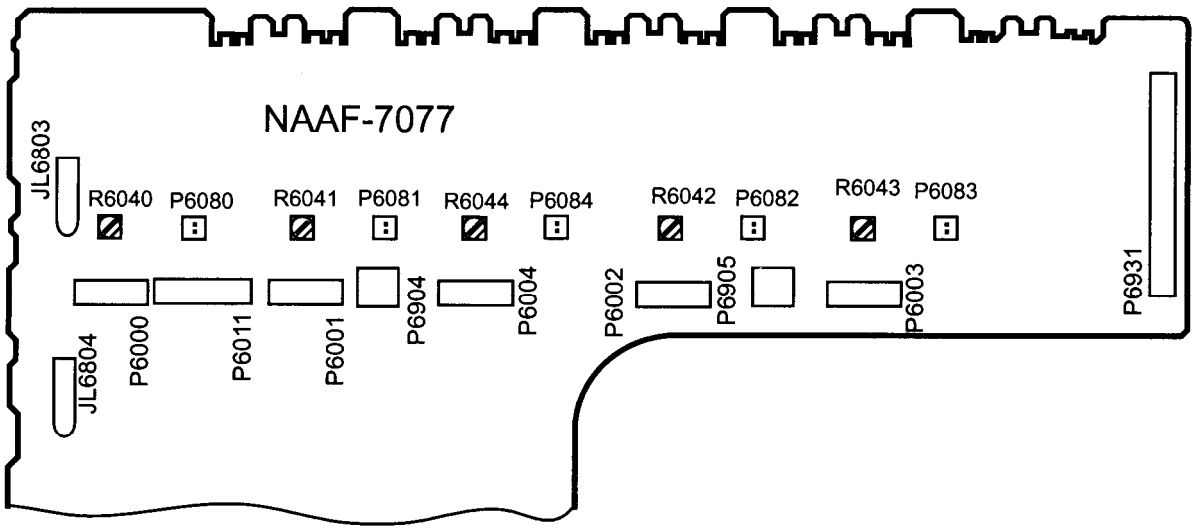
ADJUSTMENTS AND CONFIRMATION PROCEDURES

Idling current adjustment

Before Idling adjustment, turn the trimming resistors R6040, R6041, R6042, R6043 and R6044 to counter clockwise.
Connect the DC voltmeter to sockets P6080,P6081, P6082, P6083 and P6804.
After turn POWER to ON, adjust the trimming resistors R6040, R6041, R6042, R6043 and R6044 so that the reading of voltmeter becomes 5.0 mV.
After adjustment, attach the top cover.
Confirm the voltage of points above after five minutes.
When less than 6.0 mV, readjust the resistors above so that the voltage becomes 6.0 mV.
When 6.0 mV to 8.0 mV, you are not necessary to adjust.
When more than 8.0 mV, readjust the resistors above so that the voltage becomes 8.0 mV.
Note: No load and No signal

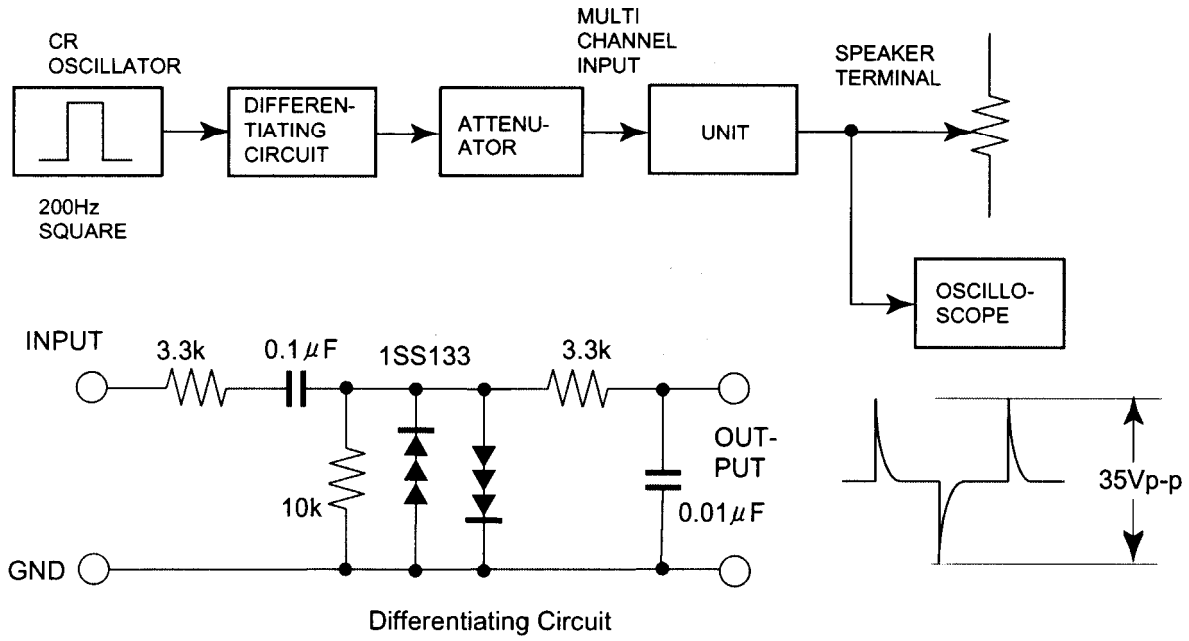


Confirmation of protection circuit

1. Confirmation of operation of speaker relay
Confirm that the speaker relay turns ON approximate. 5 seconds after the power switch is turned ON.
Confirm that the speaker relay turns OFF immediately after the power switch is turned OFF.

2. Confirmation of DC detection circuit
Connect the shored plug between the both terminals of P5601.
Press and hold down DVD button, then press STANDBY button.
During "TEST-1" on the FL tube light on, press ZONE 2 (DTR-6.2) or SPEAKER A (DTR-5.2) button.
Apply DC 1.5 to 3V to MULTI CHANNEL INPUT terminal with no load.
Confirm that the speaker relay turns OFF.
Apply DC -1.5 to -3V to MULTI CHANNEL INPUT terminal with no load.
Confirm that the speaker relay turns OFF.
After the adjustment, disconnect the shorted plug.
Caution: Don't apply DC voltage more than 1 sec.

3. Confirmation of Current detection circuit
Connect the shored plug between the both terminals of P5601.
Press and hold down DVD button, then press STANDBY button.
During "TEST-1" on the FL tube light on, press ZONE 2 (DTR-6.2) or SPEAKER A (DTR-5.2) button.
Connect the differentiating circuit and apply the 200Hz square signal to MULTI CHANNEL INPUT terminal.
Adjust the attenuator or Volume so that the output level becomes 35V p-p.
Confirm that the speaker relay does not turn OFF when a 3.0 ohm load is connected.
Confirm that the speaker relay turns OFF when a 1.5 ohm load is connected.



Differentiating Circuit

Test Mode

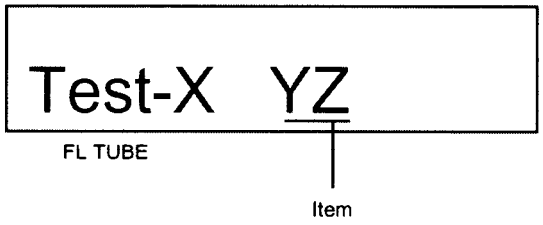
1. Turn POWER button on.
2. Press and hold down DVD button, then press STANDBY button.
3. During "TEST-1" on the FL tube is displayed, press CD button to set the unit to the test mode of FL tube.

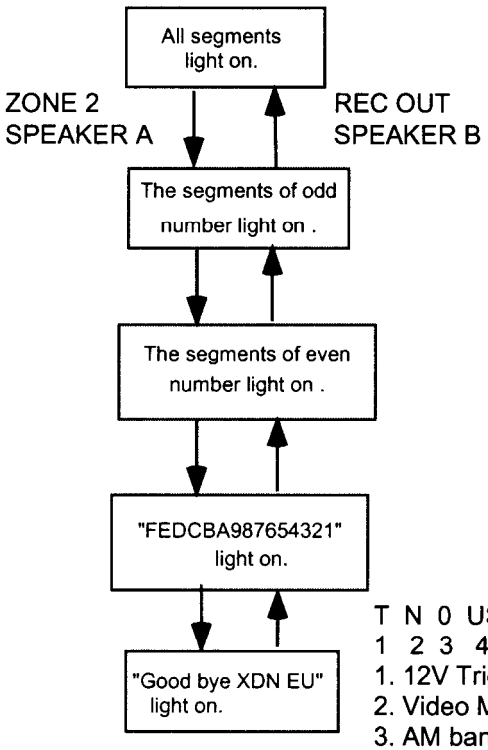
Note: VIDEO 1:TEST-1 VIDEO 2 :TEST-2 ZONE2/SP A: UP
VIDEO 3 :TEST-3 VIDEO 4:TEST-4 REC OUT/SP B: DOWN

Test mode of FL tube

DTR-6.2: Press ZONE 2 or REC OUT button to change the test mode of FL tube.

DTR-5.2: Press SPEAKER A or SPEAKER B button to change the test mode of FL tube.





Press POWER button
to finish the test mode of FL tube.

Confirmation of voltage sensor

1. Set the unit to TEST-3-4.
2. Apply the signal 1kHz, -15dBV to the MULTI-CH input. Confirm that the FM STEREO is displayed. Confirm the all channels except SUBWOFFER.
3. When connect the resistor 1.2 kohm/1 W between the terminals COM and TH1 of P6401, confirm that the spaker relays of RL6901 and RL6902 turn off.
   Note: No input signal.
4. When change SPEAKER IMPEDANCE switch to 4 ohm, confirm that the speaker relays of RL6901 and RL6902 turn off.
   Note: No input signal.

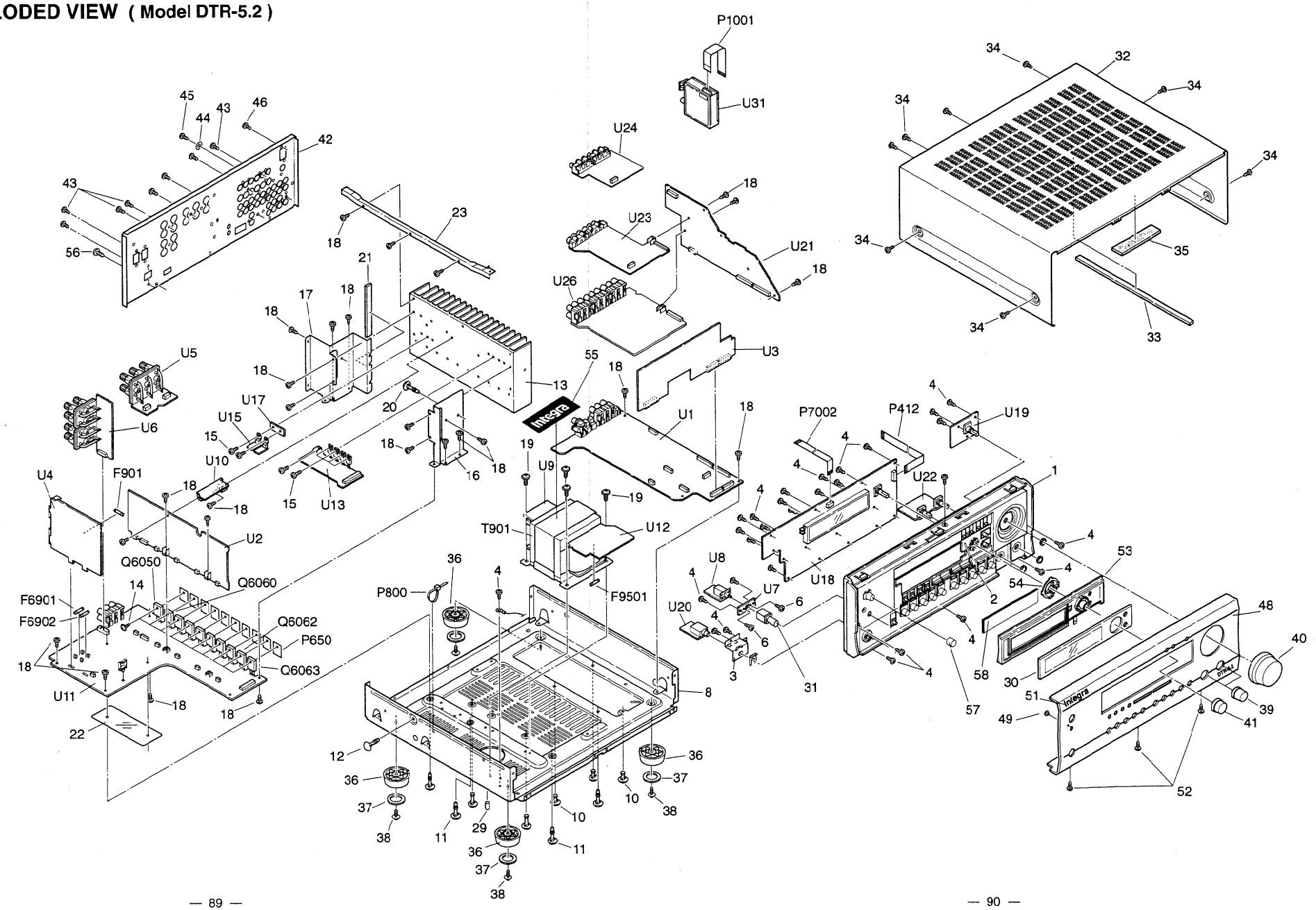
Confirmation of thermal protect

Set the unit to TEST-1-00 eith no input signal.
When connect the resistor 1.2 kohm/1 W between the both terminals of P6401, confirm that all speaker relays turn off.

T N 0 US
1 2 3 4

1. 12V Trigger T: Use
2. Video Mode N: NTSC P: PAL AUTO
3. AM band step 9: 9 kHz step 0:10 kHz step
4. Tuner band EU:Europe US: USA SA:Saudi JP:Japan

EXPLODED VIEW (Model DTR-5.2)



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EXPLODED VIEW PARTS LIST (Model DTR-5.2)

REF.NO.	PART NO.	DESCRIPTION
1	27111195	Front bracket
2	29110157	Tape, copper
3	27141756	Retainer HP
4	838130088	3TTB+8B,Self-tapping screw
6	82143010	3P+10FN(BC),Pan head screw
8	27100393A	Chassis
10	27191044	KGPS-8RF,Holder
11	27190503A	KGLS-8RF,Holder
12	27190511	KGLS-16RF,Holder
13	27160482A	Heatsink
14	801433	3SMS8W.SW+14B(BC),Special screw
15	838430107	3TTB+10S(BC),Self-tapping screw
16	27141782	Retainer F
17	27141783	Retainer R
18	838130088	3TTB+8B,Self-tapping screw
19	830440089	4TTC+8C(BC),Self-tapping screw
20	27190266	KGLS-12RF,Holder
21	28141433	Cushion
22	28175270	Isolated plate
23	27130863A	Bracket B
28	27190965	Holder
29	28330135A	Cap, screw
30	28191915	Clear plate
31	28325753	Knob, power
32	28184802	Top cover
33	28141449	t9*280*9, Cushion
34	838430088	3TTB+8B(BC), Self-tapping screw
35	28141453	t1.0*100*25,Cushion
36	27175319A	Leg
37	28141332	Cushion
38	831430088	3TTW+8B(BC),Self-tapping screw
39	28325405	Knob, tone
40	28325913	Knob, volume
41	28325914A	Knob, DSP
42	27122801A	Rear panel
43	838430088	3TTB+8B(BC), Self-tapping screw
44	87643010	W3*10F(BC),Flat washer
45	838930088	3TTB+8B(UN),Self-tapping screw
46	838430068	3TTB+6B(BC),Self-tapping screw
48	27212278	Front panel
49	28198905	Facet
51	28135278	Badge
52	838430088	3TTB+8B(BC), Self-tapping screw

EXPLODED VIEW PARTS LIST (Model DTR-5.2)

REF.NO.	PART NO.		DESCRIPTION
53	27215353		Decorative frame
54	28198922		Facet
55	29362609		Label PT
56	838440089		4TTB+8C(BC),Self-tapping screw"
57	28325756		Knob STANDBY
58	28133387		Back plate
59	29362772		Label, coveer
F6901,F6902	252198	⚠	8A-UL, Fuse
F901	252166	⚠	6.3A-UL/T237, Fuse
F9501	252160	⚠	2.5A-UL/T-237, Fuse
P1001	2047151012		NCFC7-151012,Flexible flat cable
P412	2045142212		NCFC5-142212,Flexible flat cable
P650	223024	⚠	AC238,Isolated plate
P6909	27300833		WS-2NS, Clamper
P7002	2047091012		NCFC7-091012,Flexible flat cable
P800	260208		Binder
P901	253297KAW	⚠	AS-UC-2,Power supply cord
Q6050-Q6054	2203563,	*	KTC5242-O
	2203562,	*	KTC5242-R
	2202843,	*	2SC5242-O
	2202842,	*	2SC5242-R
	2201653,	*	2SC3856-O
	2201655 or	*	2SC3856-P
	2201654	*	2SC3856-Y,Transistor
	2203553,	*	KTA1962-O
	2203552,	*	KTA1962-R
	2202833,	*	2SA1962-O
	2202832,	*	2SA1962-R
	2201663,	*	2SA1492-O
	2201665 or	*	2SA1492-P
	2201664	*	2SA1492-Y,Transistor
	2301509	⚠	NPT-1411D,Power transformer

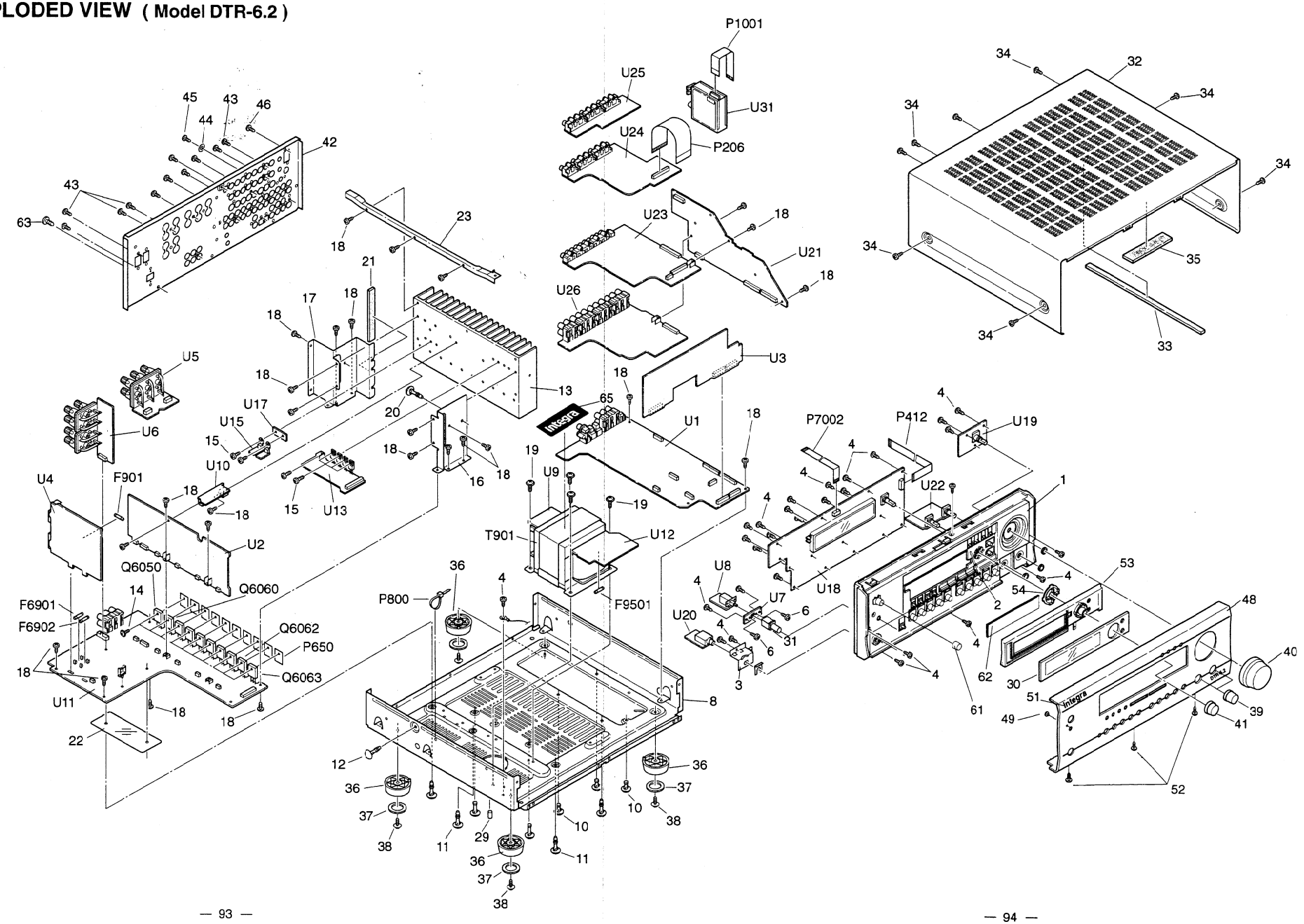
EXPLODED VIEW PARTS LIST (Model DTR-5.2)

REF.NO.	PART NO.	DESCRIPTION
U1	1A896566-1L	NADG-7066-1L,DSP circuit PC board ass'y
U2	1A896568-1H	NAAF-7068-1H,Power amplifier A PC board ass'y
U3	1A896569-1H	NAETC-7069-1H,Terminal PC board ass'y
U4	1A896570-1H	NAPS-7070-1H,Primary circuit PC board ass'y
U5	1A896571-1H	NAETC-7071-1H,Speaker terminal A PC board ass'y
U6	1A896572-1H	NAETC-7072-1H,Speaker terminal B PC board ass'y
U7	25137073	NCETC-7073,PC board for holder
U8	1A896574-1H	NASW-7074-1H,Power switch PC board ass'y
U9	1A896575-1H	NAPS-7075-1H,Terminal PC board
U10	1A896576-1H	NAETC-7076-1H,Ground PC board ass'y
U11	1A896577-1J	NAAF-7077-1J,Power amplifier B PC board ass'y
U12	1A896578-1J	NAPS-7078-1J,Regulator circuit PC board ass'y
U13	1A896579-1J	NAPS-7079-1J,Constant voltage PC board ass'y
U15	1A896581-1J	NAETC-7081-1J,Thermal Detector circuit PC board ass'y
U17	25137083	NCETC-7083,PC board
U18	1A896584-1L	NADIS-7084-1L,Display circuit PC board ass'y
U19	1A896585-1L	NASW-7085-1L, Volume PC board ass'y
U20	1A896586-1L	NAETC-7086-1L,Headphone terminal PC board ass'y
U21	1A896587-1L	NAETC-7087-1L,Terminal PC board ass'y
U22	1A896588-1L	NAAF-7088-1L,Tone control circuit PC board ass'y
U23	1A896595-1J	NAVD-7095-1J,S video terminal PC board ass'y
U24	1A896596-1J	NAVD-7096-1J,Composite video PC board ass'y
U26	1A896597-1J	NAAF-7097-1J, Input terminal PC board ass'y
U31	240138A or	ENG06501QR or
	240134	TFCE1U114A, Tuner unit

NOTE: THE COMPONENTS IDENTIFIED BY MARK⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

CAUTION: Replacement for transistor of mark * , if necessary must be made from the same beta group (HFE) as the original type.

EXPLODED VIEW (Model DTR-6.2)



EXPLODED VIEW PARTS LIST (Model DTR-6.2)

REF.NO.	PART NO.	DESCRIPTION
1	27111195	Front bracket
2	29110157	Tape, copper
3	27141756	Retainer HP
4	838130088	3TTB+8B,Self-tapping screw
6	82143010	3P+10FN(BC),Pan head screw
8	27100393A	Chassis
10	27191044	KGPS-8RF,Holder
11	27190503A	KGLS-8RF,Holder
12	27190511	KGLS-16RF,Holder
13	27160481A	Heatsink
14	801433	3SMS8W.SW+14B(BC),Special screw
15	838430107	3TTB+10S(BC),Self-tapping screw
16	27141782	Retainer F
17	27141783	Retainer R
18	838130088	3TTB+8B,Self-tapping screw
19	830440089	4TTC+8C(BC),Self-tapping screw
20	27190266	KGLS-12RF,Holder
21	28141433	Cushion
22	28175270	Isolated plate
23	27130863A	Bracket B
28	27190965	Holder
29	28330135A	Cap
30	28191915	Clear plate
31	28325753	Knob, power
32	28184802	Top cover
33	28141449	t9*280*9, Cushion
34	838430088	3TTB+8B(BC),Self-tapping screw
35	28141453	t1.0*100*25,Cushion
36	27175319A	Leg
37	28141332	Cushion
38	831430088	3TTW+8B(BC),Self-tapping screw
39	28325405	Knob, tone
40	28325913	Knob, volume
41	28325914A	Knob, DSP
42	27122793A	Rear panel
43	838430088	3TTB+8B(BC), Self-tapping screw
44	87643010	W3*10F(BC),Flat washer
45	838930088	3TTB+8B(UN),Self-tapping screw
46	838430068	3TTB+6B(BC),Self-tapping screw
48	27212277	Front panel

REF.NO.	PART NO.		DESCRIPTION
49	28198905		Facet
51	28135278		Badge
52	838430088		3TTB+8B(BC), Self-tapping screw
53	27215353		Decorative frame
54	28198922		Facet
61	28325756		Knob, standby
62	28133387		Back plate
63	838440089		4TTB+8C(BC),Self-tapping screw
64	28198923		Facet
65	29362609		Label PT
F6901,F6902	252199	⚠	10A-UL,Fuse
F901	252198	⚠	8A-UL, Fuse
F9501	252160	⚠	2.5A-UL/T-237,Fuse
P1001	2047151012		NCFC7-151012,Flexible flat cable
P206	2047271012		NCFC7-271012,Flexible flat cable
P650	223025		AC262,Isolated plate
P412	2045142212		NCFC5-142212,Flexible flat cable
P6909	27300833		WS-2NS,Clamper
P7002	2047091012		NCFC7-091012,Flexible flat cable
P800	260208		Binder
Q6050-Q6054	2202823 or	*	2SC5200-O or
	2202822	*	2SC5200-R,Transistor
Q6060-Q6064	2202813 or	*	2SA1943-O or
	2202812	*	2SA1943-R,Transsitor
T901	2301505	⚠	NPT-1410D,Power transformer
U1	1A896566-1E		NADG-7066-1E,DSP circuit PC board ass'y
U2	1A896568-1A		NAAF-7068-1A,Power amplifier A PC board ass'y
U3	1A896569-1A		NAETC-7069-1A,Terminal PC board ass'y
U4	1A896570-1A		NAPS-7070-1A,Primary circuit PC board ass'y
U5	1A896571-1A		NAETC-7071-1A,Speaker terminal A PC board ass'y
U6	1A896572-1A		NAETC-7072-1A,Speaker terminal B PC board ass'y
U7	25137073		NCETC-7073,PC board for holder
U8	1A896574-1A		NASW-7074-1A,Power switch PC board ass'y
U9	1A896575-1A		NAPS-7075-1A,Terminal PC board
U10	1A896576-1A		NAETC-7076-1A,Ground PC board ass'y

EXPLODED VIEW PARTS LIST (Model DTR-6.2)

REF.NO.	PART NO.	DESCRIPTION
U11	1A896577-1C	NAAF-7077-1C,Power amplifier B PC board ass'y
U12	1A896578-1C	NAPS-7078-1C,Regulator circuit PC board ass'y
U13	1A896579-1C	NAPS-7079-1C,Constant voltage PC board ass'y
U15	1A896581-1C	NAETC-7081-1C,Thermal Detector circuit PC board ass'y
U17	25137083	NCETC-7083,PC board
U18	1A896584-1E	NADIS-7084-1E,Display circuit PC board ass'y
U19	1A896585-1E	NASW-7085-1E, Volume PC board ass'y
U20	1A896586-1E	NAETC-7086-1E,Headphone terminal PC board ass'y
U21	1A896587-1E	NAETC-7087-1E,Terminal PC board ass'y
U22	1A896588-1E	NAAF-7088-1E,Tone control circuit PC board ass'y
U23	1A896590-1C	NAVD-7090-1C,S video terminal PC board ass'y
U24	1A896591-1C	NAVD-7091-1C,Composite video PC board ass'y
U25	1A896592-1C	NAVD-7092-1C,Component video terminal PC board ass'y
U26	1A896593-1C	NAAF-7093-1C, Input terminal PC board ass'y
U31	240138A or	ENG06501QR or
	240134	TFCE1U114A,Tuner unit

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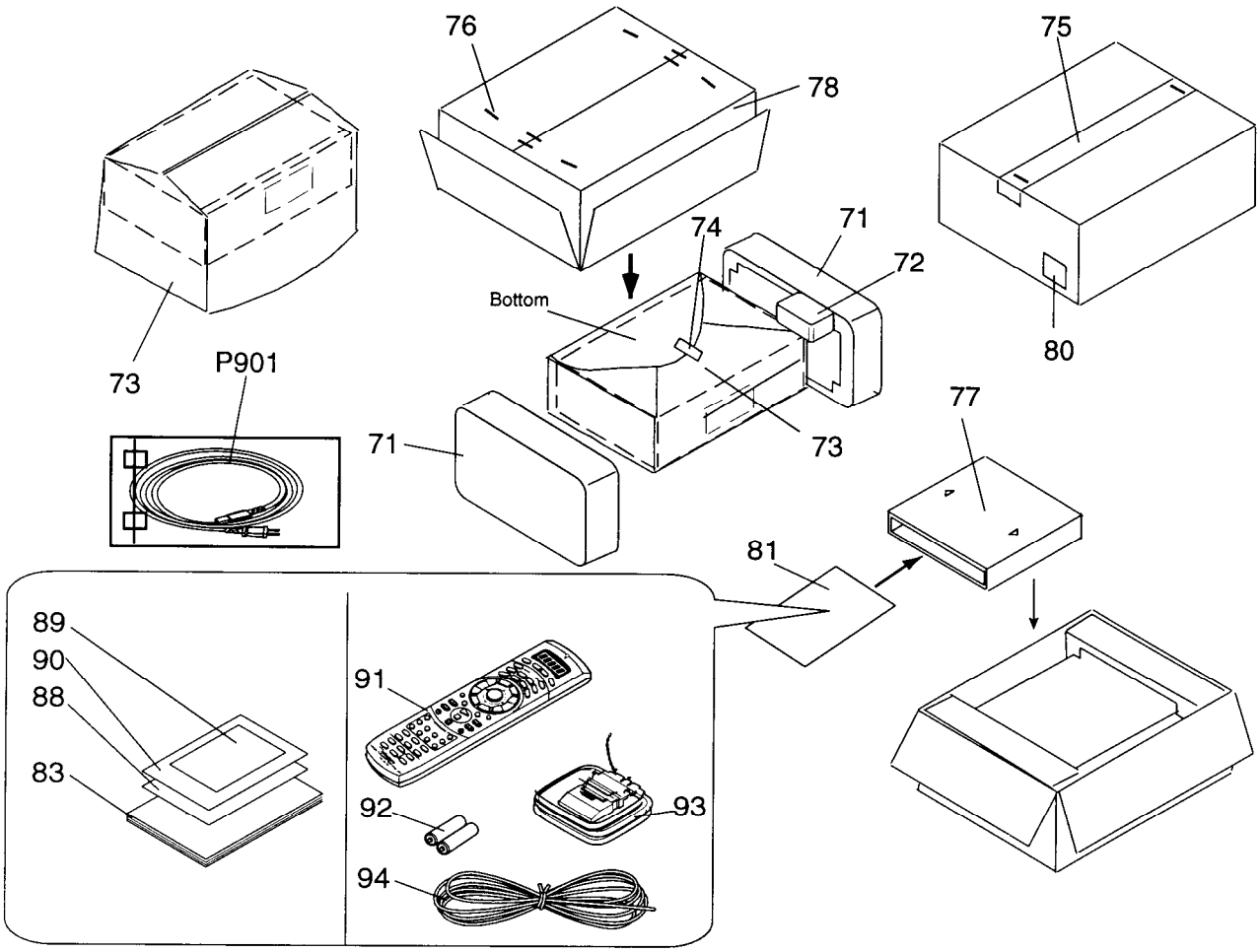
PACKING VIEW (Model DTR-5.2)

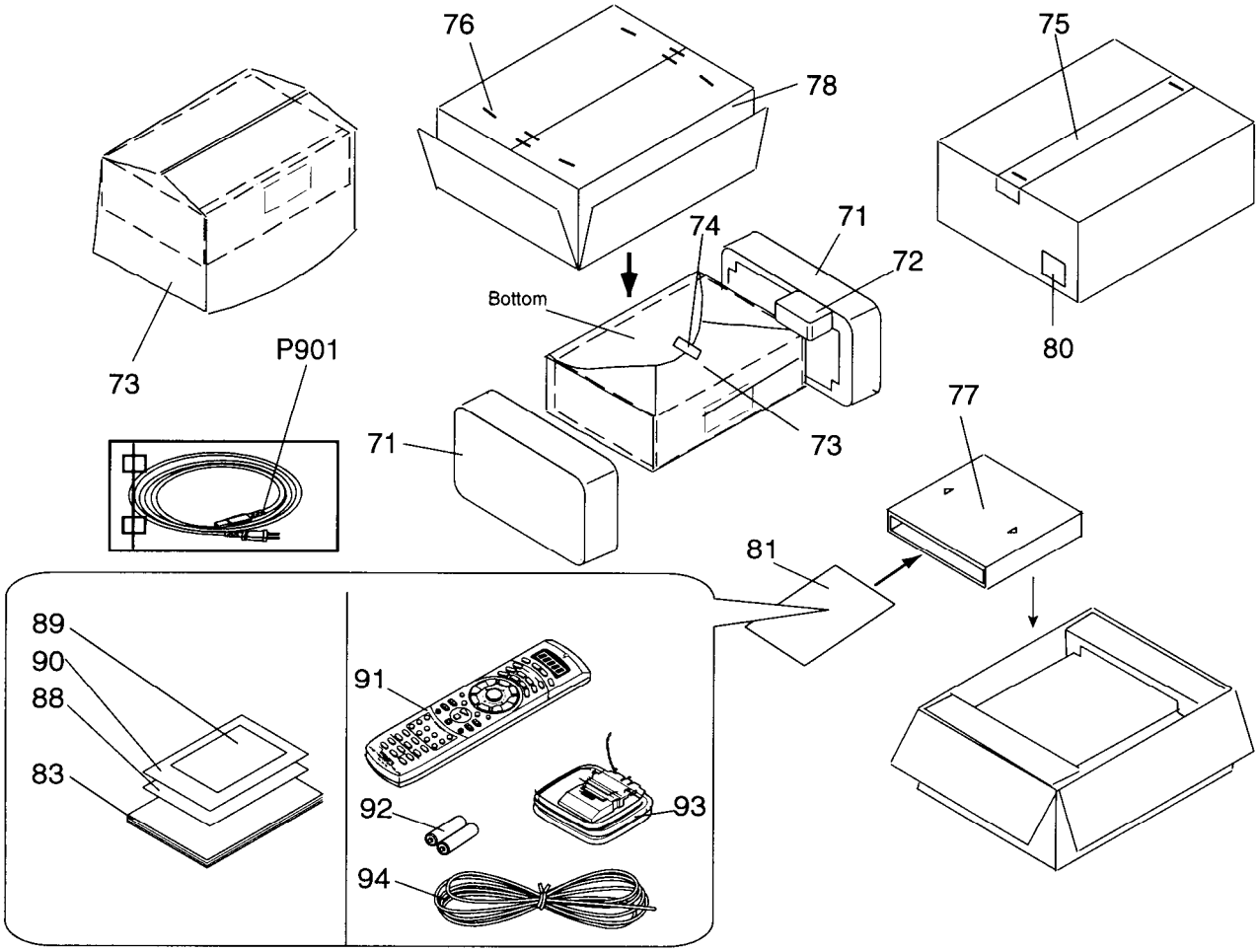


PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
71	29091969	Pad
72	29091981	Pad PT
73	29100153	1020x720, Polybag
74	261504	Paper tape
75	29110098	PP tape
76	282301	Staple
77	29053723A	Carton S
78	29053692A	Carton box
80	29362785	Label UPC
81	29100097-1A	350*250, Polybag
83	29343021A	Instruction manual
88	29343022	Instruction manual
89	29365080B	Warranty card
90	29095865	Sheet, Integra
91	24140441	RC-441M,Remote controller
92	3010054	UM-3, Battery
93	232140	NMA-3057, AM loop antenna
94	292142	FM antenna
P901	253297KAW	⚠AS-UC-2,Power supply cord

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PART NUMBER SPECIFIED.

PACKING VIEW (Model DTR-6.2)



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83	29343030A	Instruction manual
88	29343031	Instruction manual
89	29365080B	Warranty card
90	29095865	Sheet, Integra
91	24140441	RC-441M,Remote controller
92	3010054	UM-3, Battery
93	232140	NMA-3057, AM loop antenna
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